A

TREATISE

ON

OBSTRUCTED AND INFLAMED

HERNIA:

AND ON

MECHANICAL OBSTRUCTIONS

OF

THE BOWELS INTERNALLY,

AND ALSO

An Appendix,

CONTAINING

A BRIEF STATEMENT OF THE CAUSE OF DIFFERENCE IN SIZE IN THE MALE AND FEMALE BLADDER.

BY HENRY STEPHENS,

MEMBER OF THE ROYAL COLLEGE OF SURGEONS.

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TO

SIR ASTLEY COOPER, Bart. F. R. S.

Surgeon to the King, &c. &c.

Sir,

In dedicating this Work to you, I shall not indulge in any unnecessary expressions or remarks on your long services and unexampled zeal in the cause of humanity and of science. The records of those services and of that zeal, have long been treasured amongst the imperishable memorials of the science of surgery. My object is to offer a respectful tribute of my personal admiration and esteem. That I have not asked your permission, has arisen from the feeling I entertain, that by so doing, I should reduce that to the level of a mere compliment, which I intend as a genuine

expression of gratitude and respect. That you may long live to benefit mankind by your great experience, and that the records of it may be still further transmitted to posterity, is the sincere and ardent wish of

Your great admirer,
And former Pupil,
HENRY STEPHENS.

STAMFORD STREET,
BLACKFRIARS.

CONTENTS.

APPENDIX.

ERRATA.

Page 18, line 6 from the top, *for* bowels *read* bowel.
" 58, line 13 from the top, *for* follow *read* follows.
" 60, lines 10 and 12 from the top, *for* hernia *read* herniæ.
" 62, line 8 from the bottom, *for* distinction *read* distinctions.
" 68, line 10 from the top, *for* becomes *read* become.
" 83, line 13 from the top, *for* tendency *read* tendencies.
" 141, line 4 from the bottom, *for* getting worse *read* getting tense.
" 172, line 1, the top, *for* tines *read* times.

PREFACE.

It may appear presumptuous in an humble individual like myself, to attempt to offer information, or to put forth observations, upon a subject, wherein the medical public have already received instructions from the writings of almost all the men of eminence, and consequence in the profession; but, however, a path may have been explored, it is still possible that something important or useful, may remain undiscovered by the scrutinizing glance of former enquirers, which may at length become exposed to the gaze of some casual and accidental traveller on the road.

It was in this way that the following sheets originated. A case came accidentally under my care, which exhibited certain symptoms, and features, not altogether corresponding

with those ideas, and that information, which I had derived from the best authorities. This difference which I observed, lighted up in my mind a train of reflections and enquiries, which have proved highly instructive to me, and which I flatter myself, may become of service to others, if more publicly known.

There are in some diseases, many minute shades and features, which it is of no consequence to distinguish; and in which a knowledge of the mere outline alone, is sufficient to enable us to direct the only efficient, and proper remedies. There are other diseases also, in which it is of the utmost consequence to obtain a knowledge of the different shades and varieties; and for want of which, an unsuccessful practice is the only one adopted. This, I think, is particularly exemplified in the subject treated of in the following pages.

I have endeavoured so to construct my work, as to avoid the introduction of any thing which is not essentially necessary to the elucidation of the subject. My purpose has been, to give in a concise manner, the result of my experience; and to express as forcibly, but as

plainly as I could, my own conviction and opinion; and by the insertion of cases from my own practice, and from the practice of others, to prove by examples, the truth of each particular statement. To establish the truth of my opinions, a few cases or examples are sufficient; otherwise, if I had deemed it necessary to multiply my proofs by the insertion of cases, I should materially, (but as I consider unnecessarily) have increased the size of my book. My readers may easily find additional examples, among the published accounts of cases of hernia; and those who have had much experience themselves, will easily recollect cases which they could not explain according to the present views upon the subject, but which they will easily recognize, as agreeing with my descriptions.

I have not entered into any descriptions, anatomical or otherwise, upon the subject of hernia generally, because my purpose was not to write a complete treatise upon that disease, but only to supply what my investigations had discovered to me were important omissions, or defects, in those already existing, and to describe some varieties which have not yet been

noticed by other writers. My work may therefore be considered in the light of an appendage to existing treatises upon hernia.

Having in the course of my work, had occasion to differ in opinion from some of the highest authorities in my profession, it may be considered, that from their very extensive opportunities, and great experience, their opinion is much more likely to be correct than my own; but it must be remembered, that there may be a mistaken, as well as a true experience; and that a multitude of cases may have failed to show the subject in a true light to one individual, while a single case to another, exhibiting some broader, or peculiar marks of difference, may lead to a more correct knowledge, and may throw some additional light upon the subject. Besides, it is not in proportion to the number of cases, but in proportion to the degree of attention, or observation which has been attracted to the subject, that the mind becomes informed, and the experience acquired.

He who has had his attention aroused to a particular subject, is not contented to wait for

the experience that may *fall* in his way. On the contrary, he is found to be eagerly hunting for information and experience upon it. To an enquiring mind, the sources of knowledge are abundant every where; and in the work-houses and pauper asylums, and cottages in the country, medical and surgical knowledge may be cultivated, as well as in the vicinity of the public hospitals in London.

I ought, perhaps, here to make an apology to those gentlemen, from the records of whose practice I have selected unsuccessful cases, in confirmation of my doctrines and opinion; but I am sure that those gentlemen will acquit me of any intention of introducing those cases with any other view than the proper explanation of my subject; and if my comments or remarks have tended to point out any different practice to that which has been pursued, the errors which I have attempted to show have been the errors of the science, and not the errors of the surgeon: indeed if it had been my intention to have reflected injuriously on those gentlemen, the nature of the cases would not have admitted of my doing it.

I have sought to court attention by the matter, rather than by the manner of my work; but at the same time I am far from despising literary composition, because I am aware that the effect of instruction, like the effect of a story, depends greatly upon the manner in which it is communicated; and, however valuable may be the matter which a work contains, yet if it fails to excite attention, or to convey its meaning, its great aim and object are defeated. I have therefore, in the composition, endeavoured as far as I am able, to render my book interesting, and my language intelligible. How far I have succeeded or failed in the pursuit of those objects, must be left to the judgment of my impartial readers.

H. S.

ON

OBSTRUCTED AND INFLAMED HERNIA, &c.

ON OBSTRUCTED HERNIA.

Long existing and irreducible herniæ produce many remarkable and painful symptoms, and, I believe, frequently occasion death, from a cause which it is in the power of surgery to remove by an operation, where the true nature of the malady is well understood.

A remarkable case of this kind came under my care, where I had the satisfaction of saving the life of my patient by an operation, although it was one of those cases which have not been considered as requiring it, no strangulation existing.

In the month of September, 1824, a woman was taken with sickness, and pain in the

bowels. Cholera morbus being then prevalent, I expected that these were the preceding symptoms of such an attack; and, as the sickness was not followed by the usual action on the bowels, I gave her some aperient medicines, to favour the intentions of nature. Contrary, however, to my expectations, no action of the bowels took place; the pain, though frequent, was not constant, nor yet alarming, nor was the vomiting. I was called to her first on the Thursday, she having then laboured under the above symptoms three days; she continued in the same state for three days longer, without any action of the bowels, notwithstanding my continued endeavours to procure it by aperients and injections. At this period the matter vomited had a fœcal appearance, which the next day was increased, with a very offensive smell. The pain was not severe, and was not felt much, except on turning upon the left side: this position caused pain and vomiting, so also did the taking of either food or medicine; there was no tension, and but a slight soreness of the abdomen. Considering that this was a case of extraordinary anti-peristaltic action, I gave the croton oil, in doses of three and four drops, with a hope of producing a revulse of

the peristaltic movements; this, however, only caused increased vomiting, as did all aperient medicines. I enquired if she was the subject of rupture, she answered that she was not, but as I afterwards found, she did not know what I meant. I was not very minute in my enquiries upon this point, because I did not regard the symptoms as indicating any strangulation of the bowels. Upon the fourth day, her countenance began to exhibit signs of sinking, and the pulse was getting feeble and fluttering; these symptoms slowly and gradually, but progressively increased. After she had continued thus until Thursday, being one week from the day I was first called to her, she slightly mentioned to me that she had a swelling on the side of the abdomen, which had existed twenty years. Upon examining, I found a ventral hernia, having upon its surface the appearance of an old cicatrix. It was situated to the left of the umbilicus, and some little distance below it. Upon enquiry I found this hernia had existed ever since the birth of her first child, and that there had been a sore upon the surface of the skin at its first formation and that no alteration or change in it had occurred since. It was soon evident that this

hernia was not strangulated; it was not tense; pressure upon it gave no pain; it receded under the touch, and passed readily into the abdomen, with a slight gurgling noise, but returned when the pressure was removed. The pain, which had all along been in the bowels, was not of that agonized and alarming character which strangulated intestine always produces; and was not present, nor was the vomiting, except upon turning on the left side, or upon taking any thing into the stomach. I therefore concluded, from the hernia being easily returned, that the illness was not depending upon that, and also that an operation would be useless, as no good purpose could be answered by it. She continued sinking, her pulse becoming excessively feeble and tremulous, her voice failed her, and she was unable to speak, except in a low whisper, and with long drawn sighs. On Friday she was worse, the sense of sinking had increased, and as she feebly expressed it, she felt as if her life was going from her; she had occasional faintings, with frequent hiccup, and the stercoraceous vomiting was still more fœtid and discoloured. From her family I learned that she had long been subject to a complaint in her bowels, always

feeling pain after her meals, which was considered as colic; she was often obliged to leave her work in consequence of pain after eating. Reflecting, on my return home, upon the history of this case, I concluded that the symptoms, although not those of strangulated hernia, were yet such as would be produced by any permanent and mechanical obstruction in the bowels. I therefore considered that it was not only *possible*, but *highly probable*, that the obstruction was in that portion of the bowel which was contained in the hernial tumour. I therefore determined instantly to cut into the hernial swelling, and examine the condition of the parts, and thus see if relief was possible. I returned to my patient, and proposed to her and her friends an operation, as affording her a chance of relief. She, but more especially her friends, refused to permit any such experiment to be made, and urged, among other things, her apparently dying state. I admitted her extreme danger, but contended that there was a chance of saving her, because many of her present symptoms had existed from the first, and that although extremely ill, yet she was not many degrees worse than she had been for some days. I however could not prevail.

Friday passed away, and on Saturday morning I found her with little perceptible alteration. I again urged an operation, and declared to her friends that if they prevented it I should consider them as the cause of her death. I found them, although not absolutely submitting, yet inclined to yield to my persuasions. I directly sent an invitation to two of my professional friends, acquainting them that I had an important and novel case, upon which I was going to operate. On Saturday afternoon they came, and saw the case, and heard my explanation upon it, by which they were well satisfied as to the propriety of my attempt, but feared (as I did also) that it was too late. I had by this time overcome the reluctance of the friends, and although there appeared but a very slight chance of success, I had determined upon trying it. I divided the integuments, which were very thin, by a crucial incision, and afterwards a superficial fascia, with some cellular structure; the hernial sac was now exposed, which I opened freely, and found a portion of the small intestine within, which was irreducible, another portion being loose, and readily passing into the abdomen when pressed upon. The small irreducible knuckle

of intestine was adhering very firmly to the hernial sac, and in a position which at once accounted for the symptoms I had observed; it was so closely united by adhesions to the hernial sac as to obstruct, to all appearance, its peristaltic action, and prevent the due course of its contents. There was no stricture, for I passed my finger very easily into the abdomen by the side of the intestine, which was somewhat discoloured. I relieved the bowel from its adhesions to the hernial sac, partly by the knife and partly by the finger, with the assistance of my friends, and pushed the intestine into the abdomen, passing my finger in and around the opening on the inside, to be satisfied that there was no further adhesion. I then sewed up the wound. She did not feel that immediate relief from this operation which is experienced in cases of strangulated hernia. The first favourable symptom which was observed was, that upon swallowing some liquid, she had no vomiting after it, a circumstance which had never occurred previous to the operation. I saw her again in two hours, and found that she had passed some fœcal matter from the bowels, for the first time since her illness, and that the hiccup had very much

abated; her countenance now wore a less anxious appearance, but her pulse continued very low and fluttering, and she still felt a great sense of sinking, but rather less than usual. She continued in this manner for three days, slowly improving. I gave her aperient medicines and injections, which did not operate very freely. On the third day I gave her a strong dose of aperients, which produced copious discharges; the pulse after this *immediately* began to rise, the sense of sinking almost instantly went off, and she rapidly recovered.

The necessity, or at least the utility, as Sir Astley Cooper has always inculcated, of freely purging a patient after an operation for hernia, is in this case remarkably shewn; the sense of sinking, and the alarming depression of the vital powers, are the effect of a suspension of the natural function, and, until there is a resumption of the peristaltic action, the patient does not thoroughly revive. The administration of a brisk purgative, and a copious evacuation from the bowels, appeared almost instantly to remove the sense of sinking, and depression of the pulse; yet, I should think the restoration

of the function of the bowels, is always quicker after an operation for strangulation, than after an operation for what I call "Obstructed Hernia," because in the former the previous suspension will have been of shorter duration.

The above case was to me exceedingly important, it opened to my mind new views of the nature of hernia, and shewed plainly, that it may prove fatal from other causes than strangulation. All writers upon the subject, have recommended the operation for hernia in cases of strangulation only, and surgeons of the present day would not think of operating in a case where strangulation could not be supposed; yet, simple adhesion of the hernia to the sac, may produce, (as the above case proves) symptoms, which though not so quickly, are nevertheless not less surely fatal, than those occasioned by strangulation.

That the above, which I shall call Obstructed Hernia, was not a case of strangulation, any surgeon will know, from the slower progress, and less degree of violence of the symptoms. Strangulated hernia will destroy life in some cases in twenty-four hours, and generally in

four or five days, whereas the above case continued a week and two days, after I was called to attend, and the symptoms had existed three days previously.

I believe that fatal consequences from adhesion of the bowel to the sac, are by no means uncommon, particularly in umbilical and ventral hernia. I remember some years since, a man being brought into a public hospital, with an hernia, which had produced for several days very alarming symptoms; he was sent there by a practitioner in the neighbourhood. He was considered by the surgeon to have strangulated hernia, and the general opinion was condemnatory of the practitioner whose care he had been under, for not operating. The operation was performed, and when the sac was opened, several portions of intestine were found discoloured, but no stricture existed. The fingers could be passed readily into the abdomen, by the side of the intestines. The surgeon then considered the disease an inflammation of the bowels, not depending upon the hernia; he made an opening into the intestines, which discharged a small quantity of flatus, and fæces, and considering this as the utmost relief that

could be given, the patient was sent back to the ward, and of course, died. Had the surgeon considered the close adhesions of the intestines as the cause of the symptoms, and proceeded carefully to separate these connections, and return the bowels into the abdomen relieved from their confinement to the sac, and to each other, the patient would probably have recovered.

I do not speak of this case by way of reflecting upon the surgeon; he acted according to the existing opinions, and knowledge upon the subject, and when he found no stricture, it could not be supposed that he should, without previous reasoning, at once detect an undiscovered cause of the patient's malady.

Mr. Pott, in his Treatise on Ruptures, considers the dangerous symptoms sometimes arising in those who have umbilical hernia, as accidentally occurring, and not altogether depending upon it. His words are "but though I have in the inguinal and scrotal hernia advised the early use of the knife, I cannot press it so much in this; the success of it is very rare, and I should make it the last remedy. Indeed

I am much inclined to believe, that the bad symptoms which attend these cases, are most frequently owing to disorders in the intestinal canal, and not so often to a stricture made on it at the navel as is supposed. I do not say that the latter does not sometimes happen, it certainly does; but it is often believed to be the case when it is not." If Mr. Pott had only said, that the bad symptoms which occur, do not often depend upon stricture, he would be right; but when he says they are owing to disorders in the intestinal canal, he is describing effect, for cause. The disorders in the intestinal canal are produced by the adhesions which take place of the hernia to the sac, &c. which have the effect of rendering the peristaltic motion, and passage of the ingesta, &c. through that portion of the tube so confined, difficult and painful; thus, umbilical and ventral herniæ, are well known to produce complaints of the stomach, habitual colics, especially after meals; this difficulty in the performance of this important function in this part, goes on increasing with the increase of adhesions, until at length, it amounts to a total obstruction, producing death, though with symptoms less violent, and considerably more protracted, than in strangulated

hernia. One is a simple obstruction of the function, and passage of the bowels; the other is a constriction, or strangulation of the part, ending, if not relieved, in a sphacelus of the intestine, which I believe in the former case but rarely occurs. Sometimes this state of adhesion terminates in a direct inflammation of the parts, which I shall hereafter describe, under the head of inflamed hernia.

Since the occurrence of the case already detailed, I have had another, which verifies completely all that I have said above.

On Wednesday, June the 21st, 1826, I was called to consult with a medical gentleman in a neighbouring town, on the case of a lady who was exceedingly corpulent, and who had been ill several days with vomiting, and constipation of the bowels. When I arrived, the medical gentleman in attendance was not there, but was immediately sent for; I was shewn to the bedroom of the patient, and proceeded to question her upon her complaints. I found she had pain in the abdomen, with vomiting, and a constipation which had resisted all attempts that had been made to overcome it, by aperients,

and injections. Her symptoms were not violent, and indicated no immediate danger. I conjectured this to be a similar case to the one before mentioned, and immediately enquired if she had previously been subject to pain of the bowels, or colic, after taking her meals; to this she replied in the affirmative, which was also attested by her attendants, who informed me that she had often been obliged to leave the table from pain in the bowels. She had never to her knowledge been the subject of rupture. I then proceeded to examine the abdomen, the integuments and parietes of which, were loaded with fat. I examined carefully every part, and found various prominences from accumulations of fat; but at one part, a little below the umbilicus, one of these prominences appeared larger than the rest, and somewhat different to the touch, but conveyed no certain indication. The professional gentleman in attendance, soon after came, and gave me privately a history of the case from the time of his being called in. I enquired, without informing him what I thought, his opinion of its nature. He considered it a kind of inflammation of the bowels, but at the same time said it did not present the symptoms of genuine enteritis. He had con-

sidered the case as one of somewhat unusual character. I then gave my opinion, that it was a case where if we could discover the proper part an operation would relieve, and I told him the case I had formerly had, and my reasons for supposing this to be similar. Until I had related the former case to him, he said he could not see upon what principle an operation should be attempted, but after the relation of it, he expressed himself much pleased, and proceeded with me to examine the abdomen. I pointed out the part at which I considered it most likely for an intestine to have protruded. We both agreed that we should not be justified in performing any operation at present, in a case where it was doubtful whether hernia existed, and at what part it was situated, particularly as there were no symptoms which indicated any immediate danger. We agreed that it would be better to go on, (as he had very properly been doing,) in attempts to relieve the bowels, and check inflammatory action, the same as we should do if we had not entertained any other suspicions of the nature of the disease; and as in the former case, the operation had the effect of restoring the patient when the vital powers were in the last stage of depres-

sion, from the circumstance of the organization of the part not being destroyed, as in strangulation, we considered that symptoms indicating immediate danger, would be our only justification for the experiment. I continued to visit her from day to day, until the 25th, without finding any material alteration, except that the matter vomited became more feculent every day. Every thing that was taken into the stomach was rejected, and no evacuation could be procured by the bowels, and indeed, after several trials, we desisted altogether from the use of aperients, because we found them to encrease materially the vomiting. We contented ourselves with soliciting the bowels by injections, and endeavouring to calm the irritability of the stomach, by anodynes. On the 25th, I found her worse than she had yet been, her pulse was somewhat lower, she felt a degree of sinking, and her strength was plainly declining; still the symptoms were not immediately alarming. Upon consultation, we agreed we would urge upon her friends the necessity of an operation, declaring our opinion of the impossibility of relief from any other means. We found the usual objections on the part of the patient and her friends, with a strong desire to wait

another day. As, from the slow progress of fatal symptoms, and the total absence of many of those alarming appearances which had existed several days in the former case, I had calculated that the operation might with safety be yet further delayed, I did not press the point so earnestly as I should otherwise have done; but, together with my colleague, yielded to the entreaties of our patient and her friends, who consented that an operation should be performed on the morrow, if no favorable appearances took place. On the following day, the 26th, I rode over to see my patient, but was exceedingly mortified and hurt, at finding her in a state which precluded all hope of saving her. She had been taken with faintings a few hours before, from which she had never effectually recovered: her pulse was nearly imperceptible, her extremities cold, with a dewy perspiration upon the body; she had low mutterings, with delirium, and a rattling in the throat; she expired in two hours. My colleague arrived soon after, and was as much astonished as myself. He had seen her very early in the morning, and had observed no particular alteration. We left the house, regretting exceedingly this result, but determined if possible to examine

the body. We accordingly went again about three hours after her death, and with considerable difficulty obtained permission to make an examination. I explained to my colleague that I expected to find the bowels confined by adhesions, in some position unfavorable to the passage of its contents. I accordingly cut down upon the part where I supposed the hernia, if any existed, would be found; and after dissecting, with the assistance of my colleague, to a very considerable depth, through cellular structure, and fat, discovered the sac of a hernia; upon cutting through this, a circumscribed cavity was seen, containing at the bottom, a small portion of intestine. Upon passing my fingers into this cavity, I found a canal leading from it, obliquely towards the umbilicus; I passed my finger along this sinuous canal, by the side of the intestine, and at length through the umbilicus, into the abdomen. Here then, was a hernia, which had caused death without any stricture, or strangulation. The portion of bowel which had escaped the umbilicus, and insinuated itself obliquely under the fat, and integuments, was closely adhering to the sac, and doubled upon itself, so as effectually to obstruct its peristaltic action, and the passage of

its contents. After we had satisfied ourselves that no stricture existed, and that the cause of death was simply a mechanical obstruction, we separated the bowel from the strong adhesions by which it was held, and passed it readily into the abdomen; we then opened the abdomen, and examined the intestines, and found that portion which we had just returned, of a dark colour, but not in the least gangrenous. The intestinal canal leading from this portion, was discoloured for three or four inches, but much less so than the part itself; the bowels generally, exhibited no marks of inflammation, nor did the peritoneum. My colleague was now, as well as myself, perfectly satisfied that if the patient and her friends had consented to an operation the day previously, her life might have been saved, and also that death from adhesions of the bowels in hernia may take place, as surely as from strangulation.

Since my attention has been directed to this subject, I have recalled to my mind several instances which I remember to have been told me by different professional men, of cases of death from disorders, and inflammations of the bowels, where there was umbilical hernia, but

which latter appeared to them to be in no degree the cause of death, because the symptoms were not those of strangulation. These were in my opinion cases either of Obstructed Hernia, or of what I shall hereafter describe as Inflamed Hernia.

In reading the accounts of the dissection in fatal cases of hernia after operation, I have often noticed amongst other morbid appearances which have been detailed, that there were found adhesions of the bowels; and a knuckle of intestine is often described as so adhering. In operating for strangulated hernia therefore, the surgeon should not consider that he has done all that is required, when he has divided the stricture; he ought not to return the bowels, until he is satisfied that they are so freed from their adhesions, that when returned into the abdomen, they will be capable of resuming their functions. Upon this principle, I venture to differ from Sir Astley Cooper, who directs in the operation for large hernia, that the stricture should be divided without opening the sac. If the symptoms are such as to leave no doubt that they are caused by a stricture *solely*, then the above proceeding

is certainly preferable, but as I believe that in many of these cases dangerous adhesions exist, I cannot avoid recommending, that the sac should in all doubtful cases be opened, the state of the parts within examined, their adhesions, where it is practicable, removed, and the contents of the hernia, if possible, returned into the abdomen.

It has been supposed, that the fatality occurring after the operation for exomphalos, or umbilical hernia, is owing to the subsequent inflammation, produced by the admission of air into the abdomen; but I believe it is more frequently owing to the hernia being reduced in a state of adhesion, by which the obstruction to the natural functions of the bowels still continues, or to their being cases of inflamed hernia, caused by diseased omentum, &c.

I do not believe that the simple admission of air into the cavities of the body, is a circumstance which we need dread so much as is supposed; for if it were, operations for hernia would not often be successful. In the operation which I have detailed, the opening into the abdomen was sufficient to admit two fin-

gers, and any quantity of air might have passed in, nor was I at all careful to prevent it, yet no dangerous symptoms arose. When a patient dies after an operation for strangulated hernia, and upon dissection no gangrene of the intestie is found, then the admission of air is brought in to account for the continuance of the symptoms; any adhesions or alterations of structure which may exist having probably been overlooked, or at least their importance not at all considered.

There can be no doubt that operations upon umbilical herniæ are necessarily less successful, than operations upon the other varieties, because they are generally larger, and are usually old herniæ; they have also frequently undergone some change of structure, or contracted adhesions to neighbouriug parts, and therefore an operation does not so completely restore them, as it does small portions of simply strangulated intestine.

Some eminent surgeons have recommended in umbilical hernia, when the stricture is divided that no more should be done, and that the parts should not be returned, "as this disease," they

say, "is almost always connected with some other." By this it appears, that surgeons have *felt* that there is a mystery attached to these herniæ, because they find they are often not relieved even when strangulated as other herniæ are. Mr. Pott says "they who are afflicted with this disorder," (umbilical hernia) "who are advanced in life, and in whom it is large, are generally subject to colics, diarrhœas, &c. and, if the intestinal canal be at all obstructed, to very troublesome vomitings, hence patients are often supposed to labour under a stricture when they really do not. It therefore behoves such to take great care to keep that tube as clean and free as possible, and neither to eat, nor drink any thing likely to make any disturbance in that part." Pott on Ruptures.

The above admissions of disorders of the bowels in umbilical hernia, not being caused by stricture, but being connected with some other (unknown) disease, form an argument in favour of the truth of what I have advanced, that adhesion is generally the cause of the previous disorders, or of what I should term the premonitory symptoms, and also in many cases of the ultimate fatal effects. I am also borne out in

this opinion by the admission of all writers of the extensive adhesions which are found in these herniæ.

Although, as I have stated, fatal consequences from adhesion happen more frequently in umbilical and ventral hernia than in any other, yet I have every reason to believe that they are not uncommon in other kinds of hernia, and also that the want of success sometimes attending the operation for strangulated hernia, (particularly in cases of old herniæ,) is occasioned by the adhesions of the bowels not being attended to, for want of a true understanding of their importance. Two fatal cases, which appear to me to show most decidedly the power of adhesions to produce obstruction, have been lately published in the medical journals. One, is the account of an operation for inguinal hernia, which was performed by Mr. Earl, Surgeon of St. Bartholomew's Hospital, and which was unsuccessful. Mr. Earl published the case in the November number of the Medical and Physical Journal. The other is a case of strangulated femoral hernia, for which an operation was performed by Mr. Tyrrel, Surgeon of St. Thomas's Hospital, but

the patient died. The latter case was published in a Prize Hospital Report, in the Medico Chirurgical Review, for April, 1827.

In Mr. Earl's case, the man, John Harris, "was admitted into St. Bartholomew's Hospital, on Thursday night, October 4th, at twelve, with a large strangulated scrotal hernia. He had been subject to hernia many years, but had not worn any truss, and it always remained unreduced. On the Wednesday before admission he was seized with a fit of sneezing and coughing, and felt the tumour suddenly enlarged to a great size, accompanied with severe pain. This took place when he was endeavouring to evacuate his bowels, which had not acted from the *Tuesday morning*. A surgeon was called in, who made many unsuccessful attempts to reduce it, and at last sent him to the hospital at midnight on Thursday." Mr. Earl saw him between two and three o'clock on Friday morning, and immediately resolved to operate. "On making a long incision through the tumour, the sac, which was much thickened, *was found closely adhering to the surface of the intestine*, which proved to be the cæcum, with part of the colon. The intestine was much thickened, *but*

not inflamed. On examining the abdominal ring it was found very large, *and free from stricture,* the intestine *adhered closely all round the inferior margin.* Air could be pressed from the tumor upwards in the direction of the ascending colon, and when the bulk of the tumor was thus a little reduced, a firm elastic feeling body could be distinguished within the cavity of the sac. This was evidently not a collection of fæces, as it could not be moved." Mr. Earl proceeds to state, that the symptoms of strangulation were not caused by confinement at the ring; and that there was no protrusion of small intestine. He supposed that small intestine was protruded through the valve of the colon, forming a case of introsusception within the hernia. He punctured the gut with a small trocar, and afterwards opened it. Its coats were thickened but not *inflamed.* The case appeared hopeless, and the patient much exhausted, and Mr. Earl did not consider it right to persevere in attempts to restore the bowels. The man was removed to bed, and died on the 15th, the obstruction of the bowels continuing, and no fæces passing but through the opening made in the colon. In the post mortem examination, it is said, there was an

appearance of *very slight* peritoneal inflammation, where the intestines were in contact in the abdomen. "The abdominal ring was large and free from any stricture." The cæcum, parts of the colon and ileum, formed the hernia. In cutting into the hernial swelling, a quantity of sloughy cellular membrane and pus was exposed. Thickened and diseased cellular membrane in part composed the tumor. It enveloped "the spermatic cord, and the portion of ileum which *was tightly bound down in contact with the surface of the colon.*" "The gut itself, which was exposed in the operation, namely, the cæcum and parts of the descending colon, *was inseparably connected* with these masses of diseased cellular membrane, *which kept it stretched and flattened.* On slitting up the gut, on that side which had a peritoneal covering, from the part where it had been opened, large folds of thickened mucous membrane were exposed to view, which were much elevated, and the whole presented a convex surface instead of any concavity; this appearance was produced by the pressure of the tumor on the scrotal side. The valve of the colon was much thickened and prolonged, conveying the idea of a prolapsed anus. This

was the portion which had protruded, during life, through the opening which had been made, which allowed of a ready exit for the contents of the small intestines; immediately below this there was a deep cul de sac, into which the finger had passed after the operation." "From the situation and prominence of the valve of the colon, it was apparent," observes Mr. Earl, "that this must have been the aperture which was, at the time of the operation, so small, from the swollen mucous membrane, that I mistook it for the opening of the processus vermiformis." The valve of the colon was so much prolonged and so altered in character, that, even when the whole cæcum and colon were opened, some doubts were entertained whether there was not an introsusception of the ileum. The testicle was situated at the bottom of the tumor; its tunica vaginalis, which was *inseparably connected* with the hernial sac, was opened at its upper part. The testicle was of its natural size, and healthy. The tunica vaginalis was larger than natural, and had contained a small quantity of fluid, which escaped during operation. The whole tumour, when detached from its connexions, was twenty-five inches in circumference, the

greater part of which was composed of diseased cellular membrane, behind and around that part of the colon and cæcum which was not covered by peritoneum. The remaining portion of ileum was healthy, as were all the contents of the abdomen.

Mr. Earl has truly called this a difficult and perplexing case, and asks "To what cause were the symptoms of strangulation to be referred?" I believe it to have been a case, where the adhesions and morbid connexions of the parts produced a total obstruction of the natural function and action of the bowels. Cases of obstructed hernia differ from strangulated hernia, in the *greater mildness* of all the symptoms, which in other respects are the same; but when there is a protrusion, and adhesion of *large* portions of intestine, the symptoms may be expected to be more violent, and consequently more nearly to assimilate to those of strangulation. It appears from a report of the case in the Lancet, that the man had experienced pain for some months previous to his death, which generally occurs in these cases of Obstructed Hernia, from adhesion. Dissection proved that there could have been

no sudden increase of volume, and that there was no stricture; the symptoms were therefore the final *result* of a morbid and gradual confinement of the parts. Mr. Earl again enquires "To what then, it may be asked, are we to refer the symptoms of strangulation, and their subsequent removal?" In reply, I beg to state that it is not proved there was any strangulation, nor does it appear there was anything done which could have the effect of relieving such state, but obstruction did exist, and the incision into the cæcum would temporarily remove or relieve it. Mr. Earl's own explanation of the case shows obstruction, but not strangulation. He believes that the pressure of the tumor diminished the calibre of the gut, and that the tumor afterwards becoming inflamed, occasioned still greater pressure, and was the cause of a mechanical obstacle to the passage of the fæces. Mr. Earl, in conclusion, says "It may perhaps be a question in the minds of some, whether I was warranted in making the opening into the cæcum." In canvassing such question, I should say, that performing the operation as Mr. Earl did, with a view of relieving strangulation, and finding no stricture, he was justified in doing anything

which appeared likely to give even temporary relief; but if Mr. Earl had considered that an unfavourable *fixed* state of the intestines alone was sufficient to occasion obstruction, he would then have proceeded to separate them from their connexions to the surrounding parts, and to return them into the abdomen, as the only *natural* and probable way of re-establishing their function. It will probably be contended that to do this was dangerous, and perhaps impossible, and indeed, from its complication with a diseased state of the surrounding parts, I doubt if any operation would have been successful, but separating the bowel from its connexions, and returning it into the body, was the only likely or possible chance. I do not consider that any blame can reasonably attach to Mr. Earl in this case, the existing knowledge upon the subject not having distinctly shown that symptoms resembling strangulation can be caused by adhesions only, and that relief can be given by a simple separation of the adhering surfaces; Mr. Earl, therefore, could not be prepared for any such experiment, and perhaps, after all, the nature of the case might not admit of it. An opening in the bowel, therefore, appeared the only possible way in

which a mitigation of the symptoms could be obtained.

In reviewing the circumstances of this peculiar case, I trust Mr. Earl (if these remarks should come under his notice) will not consider that I am actuated by any desire of criticism. I have only sought, in that spirit of fair discussion, to which he has so candidly invited the profession, to give my reasons for supposing it of that character of "Obstructed Hernia," which it is the object of this work to explain.

I have extracted the preceding particulars, abbreviating in some parts, from the account published by Mr. Earl himself, and not from any other reports of the case, with the exception of the account of pain being experienced some months before the final attack, which information is contained in the Lancet.

In Mr. Tyrrel's case, the woman was admitted into Ann's Ward, February 6th, about one o'clock, A. M. with a strangulated femoral hernia. "She had been the subject of hernia about thirteen months, for which she had not

worn a truss—a sort of bandage had however been applied to it." It seems there had been nausea and pain since the morning of the 4th. The report says, "There was now (9 A. M.) occasional vomiting with continual nausea; *but as the symptoms were not urgent* it was determined to try an enema, and wait two or three hours before proposing the operation; accordingly one composed of decoct. hordei. c. ol. ricini. was injected, but was not retained an instant; it brought away no feculent matter, therefore at 12 o'clock (merid.) Mr. Tyrrel performed the necessary operation to relieve the strangulated intestine."

In the account of the operation, the report says, "The sac was found to contain a *small fold* of the small intestines, of a dark chocolate color; on the outer side of the sac there was found a small cyst, which gave way under the pressure of the director, and discharged about ʒss of pus. After the stricture had been divided (which existed at the neck of the sac) in a direction upwards and inwards, or towards the umbilicus, and the portion of strangulated intestine returned, the processus vermiformis was found passing to the outer side of the sac,

and *connected* with the cyst before-mentioned, through which, on the slightest pressure, a small quantity of *apparently* fæcal matter passed; this induced Mr. T. to ascertain if any communication existed between the sac and the intestines, but none could be found. The edges of the wound were brought together by a suture and retained by adhesive straps."

The patient was not in the least relieved by this operation, she continued in pain, with frequent vomitings, and a small, very quick, and hard pulse. An enema given on the 8th "produced two motions, but not very copious," with this exception the bowels could not be made to act, notwithstanding the administration of aperients and repeated injections. She continued gradually getting worse, until the 9th, on the evening of which day she died. In the account of the examination after death, the following statement is given.

"Sect. Cadav. The intestines were much distended with flatus—peritoneal coat of the intestines adherent to each other, and to that lining the parietes, the appearances of inflammation more evident as we approached the

portion of ileum which had been strangulated; *this part was doubled upon itself at an acute angle and fixed by adhesions;* it exhibited marks of intense inflammation. The mucous membrane of the whole alimentary canal exhibited more or less the effects of inflammation, more evident, however, in the lower portion. The appendix cæci was found *firmly adherent to the cyst on the outer part of the sac,* but it was quite impervious."

The above is a case of strangulated hernia, which was not relieved by dividing the stricture, and I cannot help believing that the stricture was not the *primary,* as it was proved it was not the *only* cause of the symptoms. Strangulations of the bowels differ as to their degrees of violence, and I should conjecture that in this case the constriction was not extreme, because the symptoms were not so violent as is usual in femoral herniæ. The symptoms commenced mildly on the 4th, and the operation was not performed until the 6th. In violent constrictions the bowel would have mortified in this time, and in one part of the report it is said, "the symptoms were not urgent." I believe that the stricture was secondary in this

case, and that the adhesions were the primary cause of the disease, as I think they are proved to have been of the ultimate effects. If the constriction had had a primary share in the production of the symptoms, they would, if not cured, have been mitigated by the operation, which, as the report says, they were not. The adhesion appears to have continued, not only the obstruction, but also the inflammation which the stricture had excited, which accounts for the symptoms being more severe than is usual in simple obstruction.

In No. 200 of the Lancet, June 30th, 1827, there is a case of hernia related, for which an operation was performed by Mr. Lawrence, at Bartholomew's Hospital, but without any relief. I am of opinion, and I think my readers will agree with me, that it was a case of *Obstructed* rather than of Strangulated Hernia.

The following is the Report in the Lancet.

"W. Bates, æt. 43, states, that between two and three months ago, he noticed, for the first time, a tumour about the size of a hazel nut, in the left groin, which was slightly red, and painful to the touch. Since his first

observing it, it has varied in size at different times, but has been, for the most part, without pain or uneasiness. His bowels have been very irregular for the last two or three months.

On Wednesday, the 28th of March, being very costive, he was attacked with nausea and vomiting; at the same time he observed that the tumour in the groin was larger than it had ever been previously, and more painful to the touch.

On the following morning he was attacked with hiccup, which, together with the nausea and vomiting, continued without intermission to the time of his admission into the hospital.

On Thursday, Friday, and Saturday, he took medicines, such as ol. ricini, jalap powders, &c. several times. These, as well as the little food he took, were almost immediately rejected.

On Saturday, April 1st, he applied to a surgeon, who pronounced the tumour to be hernial, (the patient having hitherto been ignorant of its nature,) and, after bleeding him

to six or eight ounces, tried to reduce it, and *succeeded in doing so*, the patient says, *to but little more than half its previous size*. From this the patient felt himself somewhat relieved.

At 4, P. M. about two hours after he had been bled by the surgeon, he was brought to the hospital, at which time he was labouring under the following symptoms; nausea, hiccup, occasional vomiting, abdomen tense, and slightly painful on pressure. There was a tumour about the size of a small walnut in the left groin, situated over Poupart's ligament, nearly midway between the symphysis pubis, and the anterior superior spinous process of the ilium. The tumour was painful, only slightly so, however, the pain extending across the lower part of the abdomen. His bowels had not been opened since Tuesday, March 27th. Pulse 120, small and weak. He was put into a warm bath instanter, and attempts at reduction made for some time, but without success. Whilst in the bath, he became so extremely faint, it was thought unnecessary to resort to venesection.

℞ Calomel, gr. iv.
Jalapæ, gr. xij, statim sumendus.
Enema, et mist sennæ comp. ℥iss.

The medicine was rejected almost immediately. The glyster came away without bringing with it any fæcal matter.

At 9, P. M. Mr. Lloyd, being at the hospital, saw the patient. He could not quite satisfy himself as to the nature of the tumour, being of opinion that although the patient had all the symptoms of strangulated hernia, *still those symptoms were not so violent as they ought to have been,* had the gut been strangulated since Wednesday. He was inclined to think it was a hernial tumour, but that the symptoms were not sufficiently urgent to require Mr. Lawrence's present attendance. He ordered the patient to be bled to ℥xvj. and five grains of calomel with a grain and a half of opium to be taken immediately. The blood was a little buffed and cupped. The calomel and opium were speedily rejected. A second dose was exhibited, but shortly after returned.

At 11, P. M. an enema was administered, which brought away a few hardened lumps of fæcal matter.

April 2. He has had no rest during the

night. The nausea, with occasional vomiting and hiccup, have continued with but little intermission. The general symptoms, &c. of the patient are much as yesterday. At 9, A.M. Mr. Lawrence saw him, and after making the necessary examinations, determined at once to operate. On the division of the hernial sac, there was found a portion of intestine as large as a filbert, protruded through the femoral ring; it was of a dark reddish brown colour, like a tamarind stone, and slightly but *generally agglutinated to the sac*, from which escaped a very small quantity of fluid. A silver director was carried into the abdomen on the inner side of the gut, and Gimbernat's ligament divided horizontally inwards, by means of Sir A. Cooper's curved bistoury, carried in that direction. The bowel was replaced easily, *but presented itself again at the orifice*, so that Mr. Lawrence introduced his finger to ascertain that the replacement was satisfactory. The gut was found completely returned. There was no adhesion. Four, P. M. the nausea, vomiting, hiccup, and pain, have continued without any abatement since the operation. Pulse 108, small and weak, bowels not yet relieved. To take a table-spoonful of house

medicine every half hour, until evacuations from the bowels are procured. Nine, P. M. the symptoms have continued unabated. He has not retained any medicine on his stomach. Pulse 108, and very weak; extremities beginning to grow cold; the skin of the wrists cold and clammy.

℞ Sulphatis magnesia, ʒi.
Tinct. opii. m. x.
Aq. menthæ, ℥i. singulis horis.

An enema was thrown up, which brought away a small quantity of fæcal matter. One dose only of the magnesia and laudanum was taken. He sunk rapidly, and died at 11, P. M. nine hours after the operation.

Sectio Cadaveris.

On separating the edges of the wound, a portion of intestine, smaller, and less discoloured than at the time of the operation, was observed at the neck of the sac, to which it was *slightly agglutinated.* It was not compressed by the margin of the aperture, and it fell out on handling the parts after their removal, the

abdomen was nearly filled with numerous convolutions of distended small intestine, consisting of that portion of the canal above the protrusion, the seat of which was in the ileum, about twelve inches from the cæcum. The intestinal tube was rather contracted below the protruded part. The latter consisted of a portion not larger than the end of the fore-finger. It was dark coloured, a little thickened, but not essentially changed in structure; the discolouration and thickening were gradually lost in the sound intestine. The mucous membrane was quite healthy in structure, *and there was no strictural impression* in the coats of the bowel. The canal was laid open at the seat of the hernia, for a few inches upwards and downwards. A slightly prominent fold was observed in the mesenteric aspect of the protruded portion of intestine, but it hardly produced a sensible diminution of the canal. The peritoneum was generally *in a sound state*. The peritoneal coat of the small intestine above the hernia exhibited slight appearances of incipient inflammation. There were a few longitudinal red streaks, consisting of an aggregation of minute vessels, and the adjacent convolutions were in two instances agglutinated in a very trifling

degree. The small portion in the mouth of the sac was *slightly adherent,* but the immediate continuation of the canal was entirely free from inflammation and adhesion. The division of the stricture, not more than one-third of an inch in extent, included the neck of the sac, and Gimbernat's ligament, the incision passing directly inwards.

The circumstances principally worthy of attention in this case, seem to be *the slow progress of the symptoms,* which, in five days from the occurrence of strangulation, had not become very urgent, and the complete constipation, although the intestinal canal had not been greatly obstructed. The man was lost for want of an operation performed earlier. Mr. Lawrence should have been sent for sooner."

I think it will be allowed, from the above report, that the stricture of the bowel was not the cause of the man's death, because after all the parts which could occasion constriction were divided, the symptoms still continued unabated. The dissection likewise proved, that inflammation of the peritoneum, or intestines, was not a cause of the man's death; because,

little or none was discovered. In consequence of the slow progress and mildness of all the symptoms, *so different from strangulated hernia,* Mr. Lloyd "could not quite satisfy himself as to the nature of the tumour." This, with the absence of all marks of strictural impression after death, and the extremely slight degree of inflammation which dissection discovered, as well as the circumstance of the hernia having admitted of a partial reduction, before the operation, proves in my judgment, that the case was one of simple obstruction of the bowels from adhesion, and that the patient died from the suspension of their function, without stricture, or inflammation.

The commencement, progress, and general symptoms of this case, so closely resemble the cases of Obstructed Hernia which I have detailed, as occurring in my own practice, that I have no hesitation in pronouncing it to be of the same kind. The appearances on dissection also, are the same as occurred in the case which I have described as terminating fatally.

Since writing the foregoing observations, I have examined attentively the late edition of Sir

Astley Cooper's work on Hernia, edited by Mr. Key, and find, that although it does not pointedly allude to the circumstance of adhesions of the intestine *within a hernial tumour* causing obstruction, and fatal consequences *without stricture*, yet the evil effects produced by adhesions within the abdomen, are particularly mentioned in that part of the work, entitled "Strangulation within the abdomen," both by Sir Astley and his very able Editor. I have collected from Sir Astley's work, much which appears to confirm the truth of what I have advanced, as to the frequency of "Obstructed Hernia from adhesions." Several of the cases which are there related, although not positively of the kind which I am describing, yet presumptively afford good reasons for believing that they partake more of the character of obstruction, than of strangulation. The following, I think amounts to positive evidence.

At page 58, Part 1st. a case is related by the Editor, Mr. Key, to shew that the swelling of the scrotum subsequent to an operation, sometimes assumes an appearance as if the intestine had come down again, and that if the wound is opened under this impression, mis-

chief is produced; for the particulars, he states himself to be indebted to Mr. South.

"Joseph Hurst, aged thirty, admitted into Luke's Ward, Saint Thomas's Hospital, September 6th, 1817. Has been the subject of inguinal hernia on the right side during the last two years, which has been gradually increasing in size during that time. He never recollects having used any violent exertion and thinks that it was caused by weakness; he is positive that he could always return the whole tumour, by lying on his back, till last Thursday evening, the 4th, since which time he has had no stools. He was bled this evening, before his admission to about sixteen ounces, at nine o'clock. The symptoms *were not very urgent*, but he complained of much pain in the part, probably owing to the attempts at reduction. Numerous fruitless attempts were made, and he was then put into the warm bath, and bled again to twenty ounces, under which he became very faint, but on recovering had severe spasms of the upper extremities; no advantage was obtained here, but it was a curious circumstance, that when pressed upon a gurgling noise was heard, *and the contents of the intestine readily*

returned; yet the hernia itself could by no means be returned; and as soon as the finger was taken off, the tumour became as large as ever, about the size of one's fist. When the intestine was emptied of its contents, and the tumour shaken, a sound was heard as if there was a large quantity of fluid in the sac itself. After remaining in the bath half an hour, he was sent to bed, and hot flannels ordered to be applied to the abdomen."

On the 7th, it appears, the usual means for reducing the hernia were tried, but without success. On the 8th, some evacuations from the bowels took place, with considerable relief, *but without any reduction of the hernia,* his amendment continued during the following week, and his bowels were open. The report then goes on as follows.

"September 16th. About noon he began to feel very uncomfortable, complaining of great pain and tension of the abdomen, which continued to increase; he has had one stool to-day; about half-past five he was much worse, and sixteen ounces of blood were then taken away, having just before that taken opii; gr. ij:; he

continued getting worse, and about eight o'clock was seized with severe vomiting and hiccough; his countenance was anxious, pulse quick and hard, abdomen tense and tender, and he evidently laboured under severe symptoms of strangulation. About half-past nine, Mr. Chandler arrived, and proceeded to the operation, at which time his pulse was at 160; but it was probably increased by bringing him up into the theatre. The operation was performed as usual, but on opening the sac, at least two ounces of water escaped, which was probably what rattled when the tumour was shook. The prevention of the return of the intestine was also clearly demonstrated, for when it was raised, the lower part was firmly adhering to the inner side of the sac, and which did not seem very recent, so that notwithstanding the man being so positive of always having been able to return it, I have little doubt but that it existed some weeks irreducible. The intestine itself was very much distended with flatus, but its vessels did not shew any appearance of long strangulation. *No stricture whatever* seemed to exist, for when the intestine was emptied, two fingers could be very readily passed through the internal ring into the abdomen, and the ad-

hesions having been cut through, the intestine was readily returned; there was no omentum in the sac. The reason of symptoms of strangulation supervening seemed to me to be this, that whenever he was attacked with much flatulency, the intestine in the sac was filled with flatus, and consequently a stricture was formed at the mouth of the sac, so as to prevent the passage of the fæces through the incarcerated portion; this flatus might be readily passed out, but in consequence of the intestine being confined at the lower part of the sac, the flatus accumulated again, and strangulation was again produced; it therefore became necessary to perform an operation in order to divide the adhesions, and the intestine was then easily returned. Three sutures were put in the wound and some adhesive plaister applied over it. At eleven o'clock I saw him again; pulse 132 and softer; *thinks himself easier*."

The recovery in this case was tedious; the symptoms varied, and on the 18th the enlargement of the scrotum gave the appearance of a return of the hernia, in consequence of which the wound was opened and the parts examined, "but the hernia had not descended." The man's

amendment was very slow, his pulse frequent, and about the 20th, suppuration took place in the scrotum, from which there was a discharge of six ounces of matter. Another abscess afterwards formed, which was opened October 11th. His recovery was not pronounced complete until the 31st of October.

In reviewing this case, I must confess I cannot agree with Mr. South, in referring the symptoms to strangulation. The flatus, and the contents of the bowels, were easily pushed into the abdomen, and in such a state of parts, it is difficult to suppose strangulation. My opinion is, that the adhesions having fixed the sides of the intestines, caused obstruction; this state was removed by the contents of the bowels becoming liquefied, and by the efforts of the parts themselves; it was again renewed, but more severely, causing inflammation of the parts contained, and symptoms resembling those which are produced by strangulation.

At page 79, Part 1st, there is a case related which was communicated to Sir Astley by Mr. Fixot of Jersey, which I rather regard as a case of obstructed, than of strangulated hernia,

though I do not wish to adduce it as a positive instance. The case is introduced as an example of the separation of extensive adhesions, without any dangerous symptoms supervening.

Mr. Fixot's account is as follows. "On the evening of July 12th, I was sent for to visit Mr. Charles Pinel, a gentleman of Trinity parish in this island, in consultation with Mr. Le Gros, surgeon. On my arrival, Mr. Le Gros informed me that Mr. P. was afflicted with a strangulated hernia, that he had repeatedly attempted to reduce, but to no purpose; he had tried cathartics and fomentations, and had been unsuccessful for thirty-six hours; his pulse was 96 full. I next examined the tumour, and attempted reduction; the hernia I found to be enterocele. Warm bath and venesection and salts were adopted without success; suspension by the feet and shaking him were the next; tobacco injection and cold affusion on the scrotum were likewise tried without success. Every trial having proved unsuccessful, being asked by his wife if I thought any chance remained from apparent circumstances, I told her none remained but the operation. Not the least fluid appeared contained in the sac, which gave

me reason to apprehend that adhesion had taken place. I told her that, being young in practice, I would not advise nor operate, until further surgical advice was obtained. Accordingly, two more surgeons were sent for, one came, the other being indisposed. The pulse had now risen, and Mr. Marsh, surgeon to the 58th regiment of foot, was for trying a scruple of calomel every two hours, and tobacco injections repeated at the same time; this was early on the morning of the 13th. Mr. M's. proposals being acceded to, we left Mr. Le Gros with Mr. P. to put them in practice. About four o'clock in the afternoon of the same day, they again sent for me, desiring I would go immediately, as he was very weak, and they thought he had but few hours to live. I called on Mr. Marsh on my way, and we proceeded. The constant vomiting had prevented his taking the calomel and injections exactly as was ordered; we now found his pulse weak, and apparent symptoms of mortification taking place. The operation was proposed, and he submitted. It falling to my lot to perform it, I had him removed into a more spacious room for the benefit of more air, the weather then being excessively hot. Having placed him in the usual

position, I began my incision an inch and a half above the abdominal ring, and continued it downwards about eight inches to the bottom of the scrotum. The sac was carefully dissected for, and on opening it, no fluid was found. The intestine was discoloured but not mortified; it was found extending about eight inches in length and the sac firmly adhering to it throughout; the testis on that side was wasted. The adhesions having been carefully dissected, I next proceeded to divide the ring, but to my surprise found no more possibility of returning it than I did before, the adhesions extending so far as to oblige me to carry my incision one inch obliquely higher up, when with care and a little trouble, I succeeded in returning it. The rest was completed with sutures and T.-bandage; pulse 120; a cathartic was administered, which operated well during the night, and the next morning he appeared cheerful and free from pain. From this to the 23rd, he was kept on low diet, (his pulse varying since the operation from 120 to 130, small,) the discharge being now great, a more generous one was substituted; wine and bark were given. His pulse now diminished in number and increased in force, and he continued doing well, when on

the 2nd of September, the wound was perfectly healed."

I am impressed with a belief that the adhesions in the preceding case, were the primary cause of the symptoms, and that if Mr. Fixot had been contented with dividing the ring, and had not separated the adhesions, the patient would not have experienced any relief from the operation. But, I confess, the case is one of doubtful, and not of clear example, of the kind I describe. However, the case is satisfactory in another point of view, by showing that extensive adhesions may be cut through, without absolutely increasing the danger to the patient.

The following case is similar: it is related in Part 2nd. page 17.

"My friend, Mr. Johnson, of Exeter, severed the adhesions in a case on which he operated, and the intestine recovered its function. He writes to me as follows.

"I have lately had occasion to perform the operation for strangulated femoral hernia. It

occurred in one of the quarter-masters wives of the ninth dragoons, in barracks, near Exeter, and fell under the care of Mr. King, assistant surgeon of the North Hants Militia, by whom I was called in. The strangulation had existed for about thirty-six hours at the time of performing the operation, and the tumour had then become exceedingly tender, with a blush of inflammation over its surface. The small portion of intestine that was down appeared of a very dark colour, and was *every where adherent* to the inner surface of the peritoneal sac. These adhesions were not so firm but that they admitted of being torn through by making use of the handle of the scalpel. Nothing besides worthy of remark occurred during the operation. The fascia propria was very distinct, and by dissecting it entire from the peritoneal sac, I was able to shew it to every one present; among whom, were Mr. Patch, Mr. Adams, and several other professional men of Exeter. The patient recovered, without having one bad symptom, and the wound was perfectly healed on the seventeenth day."

" In this case, I felt myself at a loss to ac-

count for the complete remission of the symptoms of strangulation which took place after the administration of the tobacco enema, and which continued for seven hours afterwards, although the tumour remained exactly in the same state. The delusion indeed was such, as to induce Mr. Patch, one of our oldest and most intelligent hospital surgeons, to believe that the disease was nothing more than an enlarged gland, accidentally combined with colicky symptoms."

In the above, Mr. Johnson has not noticed the existence of any stricture, and I therefore consider that it was adherent hernia without strangulation, but there may probably have been a stricture divided, which was omitted to be mentioned, but still I regard the case as one where the symptoms were caused by the adhesions principally, and not by strangulation only; the bowel not appearing to have recently protruded. The remission of the symptoms alluded to by Mr. Johnson, is in some degree, characteristic of the kind of hernia which I am describing; an abatement of those symptoms frequently taking place; indeed, when the intestines are completely empty, there is often not much pain.

Although as I have stated, cases of obstructed hernia, are occasionally to be met with in the inguinal and femoral varieties, yet it is in the umbilical and ventral hernia, where it is most frequent, and I believe that it occurs as often, if not more often, than cases of strangulation, although usually confounded with them. Sir Astley Cooper says, page 35, part 2nd, "the symptoms of strangulation are generally less urgent in this, than in the inguinal or crural hernia," and yet he has detailed at page 45, a case of umbilical hernia of the most acute and violent form, and where the fatal termination was extremely rapid, and I suspect, where umbilical hernia is really strangulated, that it is more violent, and rapid in its progress, than other kinds. I believe that the symptoms when mild, are generally those of obstruction simply, and not those of strangulation.

In describing the causes of strangulation in umbilical hernia, Sir Astley says, "The most frequent cause of strangulation, is indiscretion both in the quantity, and quality of food, so that persons subject to this complaint, should eat sparingly at any one time, and should avoid every thing that tends to flatulency." The in-

testines, as I have before observed, when confined by adhesions, carry on with difficulty their peristaltic movements, but so long as they have only fluid contents to propel forwards, or contain nothing which requires for its passage, a more distended state of intestine, their function is carried on; but when any substance is eaten, which is bulky, or which requires a larger space for its passage than the intestines so confined by adhesions will allow; or which requires a more vigorous action of them, they are unable to carry on their office, and obstruction or inflammation follow; and as I stated towards the beginning of this treatise, pain and uneasiness in the abdomen after taking food, are among the premonitory symptoms, which indicate at some period or other, the occurrence of permanent obstruction. Indiscretion in the quantity, and quality of the food, are much more likely to give rise to obstruction, than to strangulation.

I have examined the Practical Observations of Mr. Hey upon the subject of hernia, but do not find any cases, or remarks, which I can produce in direct confirmation of what I have advanced, namely, that hernia often requires

an operation when not strangulated. At Page 113, Mr. Hey says, in speaking of the operation, " when the operation proves unsuccessful, without gangrene of the prolapsed part, the patient almost always dies with symptoms of the ileus." This is in accordance with my opinion, and I also think that the continuance of these symptoms, is in many instances dependent upon the intestine's being in a state of adhesion. The case which I have instanced of Mr. Tyrrels, was proved by dissection to have been of this nature, and at Page 42, Part 1st. of Sir Astley Cooper's work, a case is related where the patient died from the symptoms continuing after the operation, and upon dissection, a portion of ileum was found, which had not been returned, in consequence of its adhesion to the sac. Sir Astley also says, Page 43, " it sometimes happens that the convolution of intestine in the hernial sac, has its sides glued together by recent adhesions. When this happens, it is right to separate them before the intestine is returned, because the stools do not readily find their way through an intestine which is thus doubled."

Upon a careful perusal of the very excellent

"Treatise on Ruptures," by Mr. Lawrence, I find under the the head of "Chronic or Slow Kind of Strangulation," an indirect description of the hernia, to which it is my purpose in this work to call the attention of the profession. Mr. Lawrence has very ably described the different progress of the symptoms in this, and in what he calls the "Acute, or Inflammatory Strangulation." The latter, he describes, as more frequently occurring in recent hernia, in young persons; the former in large, and old hernia. Mr. Lawrence's description, although clearly agreeing with a state of obstructed hernia, does not exactly correspond with what I have observed. He describes the strangulation in these cases, as being caused by an accumulation of the intestinal contents in the hernia, which he says, is indicated by a slow swelling or enlargement of the parts, and an enlargement of the abdomen, from accumulation above the stricture. "The indication," he observes, "is to unload the intestine." In the cases which I have related, mere fæcal accumulation was not the cause of the symptoms, for if so, nature had herself fulfilled the indication, for in the case which terminated fatally, the stercoraceous vomiting had completely emptied the alimen-

tary canal above the stricture, with the exception of some flatus; and in both cases, the intestine in the hernia was empty.

Mr. Lawrence has, under the head of slow strangulation, described a state of obstructed hernia from fæcal accumulation, and without doubt, such a state often is produced; but I suspect that the cause will be found to be an adhesion of the parts. Where there is no adhesion, I should imagine that the obstruction might generally be removed by the usual means adopted for reducing hernia, for a collection of fæces only, could hardly oppose an inflexible resistance to the return of the parts; particularly in an early stage of the symptoms. Obstructed Hernia admits of relief, or not, in proportion to the degree of permanence in the cause of obstruction.

With due respect and deference to the opinion of Mr. Lawrence, I consider that this hernia ought not to be described under the head of strangulation, because the symptoms are produced by a different cause, and frequently exist without any stricture whatever; and upon a true understanding of this distinc-

tion between Strangulation and Obstruction, the life of the patient often depends; for without it, if a surgeon in operating upon this kind of hernia, should find a slight degree of constriction, he would content himself with dividing the stricture, considering it as the sole cause of the symptoms; he probably would not think of separating the adhesions, unless easily effected. The patient left in this state, (and most authors justify this proceeding,) would die, and upon dissection, the bowels in the abdomen, and the peritoneum, would probably be found more or less inflamed, which in the mind of the surgeon, would sufficiently account for the patient's death, under the name of *Peritoneal Inflammation,* or the continuance of *Enteritis.*

At page 56, Mr. Lawrence says, in speaking of the distinction of strangulated rupture, " the most important case, however is, where a patient with a rupture has an attack of ileus from some other cause, in which the original complaint is not at all concerned. The operation performed on the supposition that the symptoms arise from the hernia, would here be not only useless, but even injurious; and the

surgeon would neglect those means which the inflammation of the bowels so urgently de. mands," and a little further, Mr. Lawrence says, " when a person labouring under ileus, has a hernia, which can be reduced easily there is no ground for doubt."

I again venture to differ from Mr. Lawrence in the above passages. If I had a patient with symptoms of ileus, who at the same time was the snbject of a rupture, I should not be disposed to look for any other cause of his disease, because I do not think that simple inflammation of the bowels ever produces a well marked case of ileus, or at least such symptoms as bear an exact resemblance to strangulated, or to that which I have termed " obstructed hernia." It is no proof of a hernia's not being the cause of ileus, that it admits in all appearance of being easily reduced. The great bulk of the rupture may be returned, and yet a small portion may remain confined by adhesions, and which portion is that at which the obstruction exists, although from being small and empty it cannot be felt. The case related at the beginning of this book was exactly of this kind.

That the division of a stricture is supposed to be all that is positively required in the operation for hernia, may be collected from all authors who have written upon the subject. Mr. Lawrence says, page 62, "That the symptoms of strangulated hernia arise from the pressure of the stricture on the protruded parts; and that this cause is not only adequate to that effect, but, indeed, the only one that can be assigned, is too clear to admit of any doubt." That this opinion is at variance with mine, may be collected from what I have previously stated, and that the symptoms which Mr. Lawrence has so well described under the head of "chronic, or slow strangulation," may exist without any stricture whatever, is proved by the two cases related in the commencement of this work. At page 420, after having written in favour of the plan of operating in large umbilical hernia, without opening the sac, Mr. Lawrence says, "This" (the division of the stricture) "will permit the return of the parts if they are not adherent; and if adhesions should have formed, the immediate cause of danger, the strangulation, is removed." I believe that two causes of danger may exist at the same time, namely, stricture and adhesions,

and that unless both are attended to, the safety of the patient is not ensured.

The distinction between obstructed and strangulated hernia, is very often not well defined, and, I believe, in many cases there is such a mingling of the two causes, namely of adhesion and stricture, that it is often difficult to decide which has a primary share in the production of the symptoms. Cases so totally distinct from strangulation, as those which I have related, as occurring in my practice, are not so frequent as those which partake of a more mixed nature. I should say, all previously reducible ruptures, which have suddenly descended, producing symptoms of ileus, are without doubt caused by a stricture, but all large and irreducible herniæ, which have, for some time previously, caused pain, particularly after meals, and have produced occasional obstructions in the bowels, are most probably connected with adhesions.* The tumour is also generally less tense, the symptoms not so acute, and the abdomen not so soon painful, in

* I believe, that for an irreducible rupture to become strangulated, it is necessary that there should be a protrusion of a fresh portion of intestine.

cases of obstruction, as of strangulation; but these distinctions are not immediately necessary, if a surgeon bears in mind the necessity of separating any adhesions which he may find, in cases where he has occasion to operate for hernia, and of not considering the stricture as the only possible cause of the symptoms.

In the foregoing sketch of Obstructed Hernia I have not alluded to those temporary symptoms which sometimes take place in reducible hernia, as distinct from symptoms of strangulation, because it was a matter of little importance, as in those cases a reduction of the hernia is clearly pointed out as the means of relief; for example, a man having reducible hernia, removes his truss, and upon the hernia descending finds uneasiness in the abdomen, which, if the hernia is not reduced directly, is attended with nausea, uneasiness of the stomach, &c. He assumes the horizontal position, and the hernia returns, or he applies his hand to the part and readily reduces it. The symptoms immediately subside. The following circumstance happened to a friend of mine. A patient sent for him, complaining of uneasiness in the abdomen, with nausea, &c. and other symptoms

of disorder in the alimentary canal, so mild as to lead to no suspicion of hernia; some casual mention of a swelling in the groin occurring, led to an examination of the part, when a femoral hernia was discovered, which upon the slightest pressure receded. Such cases cannot be called cases of strangulation; they are simply cases of obstruction or interruption to the peristaltic action of the intestines, from a sudden and unnatural alteration in the course of the intestinal canal. Strangulation, as the name implies, supposes a certain degree of violence done to a part, and which must be attended with a certain degree of violence in the symptoms, and if the cause continues, more or less of destruction to the part must ensue. Le Dran has related a case where the operation was resorted to on the seventeenth day, and the parts were not much affected. I would ask of all those acquainted with the subject if a bowel could be so long strangulated with so little effect? It is clear to me that the case was one of simply obstructed hernia, and so I believe are all such protracted cases.

ON INFLAMED HERNIA.

THE contents of a rupture are said sometimes to become inflamed in connexion with an inflammation of the bowels generally, and totally independent of any cause arising from the rupture. That this may sometimes be the case is probable, but I believe such instances are extremely rare. These inflammations, I believe, are almost always generated by the morbid condition of the parts within the rupture, and afterwards becomes quickly communicated to the interior of the abdomen. Large irreducible herniæ, more especially umbilical, are those in which this form of disease mostly occur, which appears to partake more of the character of enteritis, than of ileus. A small portion of confined intestine, however intensely inflamed in itself, does not so necessarily, or so quickly, communicate its disease througout the abdomen, it being of comparatively local origin; but when the contents of a large hernia become inflamed, as a sequel (I believe) of various chronic confinements, and changes of structure in the parts, the disease from the first will be

of a more diffused and general character, and will more extensively and quickly communicate with the interior.

Although large irreducible ruptures are those in which disease and inflammation, independent of mere mechanical obstruction, are most likely to arise, yet small irreducible ruptures are also very subject to this form of complaint, particularly omental, or those wherein omentum is contained. The omentum is subject, in its unnatural situation, to become thickened and diseased, and to suppurate.* The hernial sac will also often inflame and suppurate. The appendiculæ epiploicæ of the colon will also occasionally undergo some alteration of structure, when confined within a hernial sac. All these various changes and states of disease become a frequent source of inflammation to the contiguous bowels or peritoneum. The inflammation which is thus produced is attended by an obstinate obstruction, and symptoms of general inflammation throughout the abdomen, and is generally fatal in its consequences. When these herniæ are small, the inflammation

* "In old irreducible hernia the omentum often becomes diseased."—*Sir Astley Cooper, page 27, Part 1st.*

of the rupture denoted by pain, soreness, and tension of the part, so clearly precedes the inflammation of the abdomen, that the case is usually mistaken for strangulated hernia. and if an operation is performed, the tension which the parts have acquired fills up the opening through which they have descended, and favours the mistaken opinion of the existence of a stricture. When the herniæ are large, the inflammation of the abdomen and of the hernia are very often nearly simultaneous, and if upon operating there is found a palpable absence of stricture, then the hernia is supposed to be merely participating in a general inflammation of the intestines. The want of success attending operations upon large herniæ, particularly umbilical, is attributed to the direct exposure of the peritoneal cavity, by which a dangerous inflammation is excited. I believe that the inflammation which destroys the patient is, in the majority of cases, altogether established before any operation is attempted.

Cases of unsuccessful operation for hernia are, in my opinion, very frequently cases of the above kind. If omentum has formed a portion

of the hernia,* it is generally found upon dissection to be in a state of suppuration, adhesion, or thickening. Considerable inflammation is usually found to have prevailed throughout the abdominal cavity, and herein consists one strong feature of distinction between inflamed and strangulated hernia. In inflamed hernia, the peritoneum and intestines are found inflamed *throughout*. Layers of coagulable lymph, and depôts of pus, are interposed between the convolutions of intestine, both *above* and *below* the part forming the hernia. In strangulated hernia, after death, according to Sir A. Cooper, page 29, Part 1st. "three or four convolutions of intestine are found lying across the abdomen, so enormously distended as to exclude the other viscera from view, and agglutinated slightly together by an effusion of adhesive matter; the track of adhesion is formed by red lines," &c. and further, "the portion of intestine *below* the stricture, is, on the contrary, remarkably contracted in diameter, and *free from any appearance of inflammation.*"

* Sir Astley Cooper says, page 30, Part 2nd, "I have never seen the umbilical hernia in the adult but that it contained omentum."

At pages 36 and 37, Part 1st, of Sir Astley Cooper's work, a case is related, which appears to me to be of the nature of what I have termed Inflamed Hernia.

"A woman was admitted" (into Guy's Hospital, 1803) "with three herniæ, two in the groin and one at the naval. The umbilical hernia and that of the left groin were irreducible, that of the right groin felt extremely sore upon pressure. A doubt arose which was the hernia that required the operation, *but as the symptoms of strangulation* were not extremely urgent, though the woman was very low, it was agreed to wait till the next day for a consultation. During the night, however, she died, and upon inspecting the body, the tumour in the right groin was found to be an enlarged and inflamed absorbent gland, lying over an empty hernial sac. In the left groin was *a portion of inflamed intestine*, and at the navel was an irreducible omental hernia, which had *suppurated*, and contained about a table-spoonful of matter."

"This woman complained chiefly of pain in the right groin, and if the operation had been

performed, this would have been the tumour laid open. This case also furnished another observation; though this woman had several herniæ, yet the operation on whichever it had been performed would have given no relief, as she died, not of strangulated hernia, but of peritoneal and omental inflammation. When the abdomen was opened the intestines were found adhering to each other, with matter interposed in some places; and a considerable quantity of pus had been effused into that part of the omentum which was contained in the cavity of the abdomen. In this case, therefore, the abdomen was first affected, and the inflammation, after having extended through it, was continued to the protruded parts. Soreness of the abdomen, therefore, which in strangulated hernia is a late symptom, *must here have been one of the earliest.*"

It may appear presumptuous in me to venture to offer an explanation upon this case, contrary to that which is given by Sir Astley Cooper, whose great experience, and well known powers of discrimination, ought to make every one cautious in expressing an opinion at variance with his; but having been strikingly shown in

the cases mentioned in the beginning of this treatise, the great mischief which can be produced by adherent hernia, I cannot avoid thinking that the disease and subsequent death of the woman were caused by the herniæ. Sir Astley Cooper has said, that the woman died, "not of strangulated hernia, but of peritoneal and omental inflammation," and he likewise *supposes* that the abdomen was first affected, and that the soreness there, which in strangulated hernia is a late symptom, *must* here have been one of the earliest.

I think there can be no doubt that the above was not a case of strangulated hernia, but one of peritoneal and omental inflammation; but I do not agree with Sir Astley, in supposing that the abdomen was first affected; on the contrary, I believe that the herniæ generated the inflammation, which was communicated quickly, or otherwise, according to circumstances, to the interior of the abdomen.

I perfectly agree with Sir Astley Cooper, that an operation at the period at which the patient was brought to the hospital, would have done no good; but whether, if at any

former period, the hernia of the left groin, and of the umbilicus, had been subjected to operation, the adhesions of the former removed, and the parts returned, and the diseased omentum in the latter cut away, the fatal result would have been avoided, remains to be considered.

The following, extracted from page 46, Part 2nd, of Sir Astley Cooper's work, is, in my opinion, a case of inflamed hernia, generated by thickened and diseased omentum.

"Mrs. ——, a patient of Mr. Anderson, in Walbrook, who had an umbilical hernia, which was in *part irreducible*, had symptoms of strangulation on the 1st of September, 1802, which continued until the 4th, when it became necessary to operate.

I made an incision at the lower part of the tumour, following the same course as in the former cases, and exposed a portion of omentum, which was very much hardened, adhering strongly to the inner part of the sac, and forming membranous bands across it.

At the upper part of the sac I felt a fold of

intestine passing through the opening at the umbilicus, which opening was sufficiently large to allow, by the yielding of the omentum, a passage for my finger into the abdomen. Still, however, as some force would have been necessary to return the intestine in the abdomen, I thought it proper to divide the stricture, which I did with a probe-pointed bistoury upwards, and found it of a cartilaginous hardness. I then easily returned the intestine, but the omentum was left within the hernial sac without separating its adhesions. The integuments were brought together by sutures."

"She had stools soon after the operation, but the inflammation in the abdomen proceeded, and she soon became delirious. She died sixteen hours after the operation."

I may be considered as expressing my opinions too freely, yet I cannot but conceive that the stricture had little or no share in the above case in causing the patient's death.

At page 51, Part 2nd, of Sir Astley Cooper's work, there is another case, which I feel little hesitation in adducing as one of inflamed

hernia. Sir Astley Cooper was called to the case by Mr. Holt, of Tottenham, and an operation was performed by Mr. Holt; omentum only was contained in the sac, which adhered very generally to the inner side. The patient died of peritoneal and intestinal inflammation.

The omentum is a part not very essential to the health or life of the body. It may be cut away, it may be tied and destroyed, and it will sometimes of itself slough off without destroying the life or health of the parts. It is in itself of little importance to the body, yet its presence in an irreducible hernia uppears to me to add very materially to, or to be a main source of danger in the case; not, as I have observed, from its own importance, but from its being a ready medium of generating and communicating a diffuse inflammation to more vital structures.

The following, from Mr. Lawrence, is an additional testimony in proof of the fatality of umbilical hernia.

"The greatest practical writers have strongly represented the frequent fatality of the operation for strangulated exomphalos, and the results of

my own experience coincide entirely with their statements. I have, indeed, operated successfully on a large *intestinal* exomphalos, containing several convolutions of small intestine, of a bright red colour, *withoutany omentum*, in a fat woman advanced in years; but the majority of cases in which I have either operated myself, or seen the operation done by others, have ended fatally."

As there was no omentum in the case alluded to as successful, by Mr. Lawrence, I conjecture that it was a true strangulated hernia, which will admit of relief more certainly than inflamed hernia.

The following case, taken from the Medico Chirurgical Review, for October, 1827, is one of inflamed hernia, ending in the death of the patient. An operation was performed, under the impression of its being a case of strangulated hernia. It occurred at St. George's Hospital.

"Joseph Hynaison, æt. 36, had been subject to rupture for five or six years, but could always return it, and never wore a truss. On the 29th of April, whilst coughing, the gut

came down with some pain, and he was unable to reduce it. The pain increased, and on the first of May he became affected with vomiting. He now applied to a surgeon, who bled him, administered an enema, and employed the taxis, but without effect. Leeches and lotions were subsequently applied to the tumour, and tartar emetic given. The vomiting persisted, and after May 2nd. he had no evacuation from the bowels, although previously he had several daily. On admission, May 4th. the expression was highly anxious; hands cold; pulse 108, weak and small; tongue furred and rather dry; vomiting of a green bilious matter. In the right inguinal region was a tumour of considerable size, tense, extremely painful to the touch, stretching down into the scrotum, and bearing all the marks of scrotal hernia. There was great pain and tension of the abdomen, and the patient was exceedingly restless. Warm bath for three quarters of an hour, without the slightest relief At 9, P. M. the operation was resorted to as a dernier, though almost hopeless resource, by Mr. Jeffrys. It was performed in the usual way, the stricture being at the outer ring. On cutting into the sac, it was found to contain condensed omentum of a reddish inflammatory

colour, and adherent to the parietes of the sac as high as the inner ring. It was not however congested or black; in fact, *there was no evidence of strangulation.* The adhesions were with some difficulty broken down, and the omentum returned into the abdomen. 11. P. M. Belly very painful; pulse 120, weak. *Haust. Salin.* ℥ss. *Magnes. Sulph.* ʒi. 4 *tis horis. May* 5, *no better. V. S. ad.* ℥x. *Hirud. xx. abdom. Inf. Rosæ.* ℥iss. *Magn. Sulph.* ʒi. *statim.* The extremities now became quite cold, and at 8. P. M. he expired."

"*Dissection.* The peritoneal coat of the intestines was inflamed, and the convolutions agglutinated together. A portion of omentum on the right side, was injected and indurated by inflammation, whilst a little above this, and apparently in that part of the omentum which had been enclosed in the sac, was an abscess, containing a spoonful of good pus. Here and there the intestines were coated with layers of lymph, and in small cyst-like cavities, between these layers and the peritoneum, were small depôts of pus. In short, there was evidence of pretty acute peritoneal inflammation, both on the intestines and omentum. It was evident,

too, that no gut had at any time been included in the stricture.

It is evident to me, that this was a case where the adherent omentum generated the inflammation, which destroyed the patient. The pain in the hernia began on the 29th of April, it gradually increased, until May the 1st, when he became affected with vomiting. The bowels continued open until May 2nd, so that it is clear, that obstruction was not the primary cause of the disease; it is also clear, that strangulation did not exist. It remains as a question, whether any operation at an earlier period could have saved the patient's life. I am inclined to think, that if, soon after the commencement of pain, the hernial tumour had been opened, and the diseased omentum separated from its connexions, and cut completely away, the inflammation might probably have been arrested; but these cases completely mislead the surgeon; they generally commence mildly, and gradually increase, not presenting until a late period, the usual features of a strangulated hernia, and therefore, long before he has thought any operation necessary, the case is hopeless. If an operation is performed, it is with a view of re-

moving a constriction. If it is found that there is no stricture, it is said to be an inflammation of the bowels generally, not caused by the hernia. A dissection of the case proves that peritoneal and general inflammation had prevailed, which satisfies the parties, and the case in this manner becomes altogether obscured.

Large irreducible herniæ, particularly umbilical, as I have before observed, are those which are most subject to this disease, and such cases confuse, and perplex very much, the mind of the medical attendant. Consisting, as they do, of very large portions of the abdominal contents, when they become inflamed, the whole abdomen is soon in active disorder; generally too, from the extensive adhesions which these herniæ have formed, obstruction is among the earliest symptoms. The character which the disease assumes, is that of peritoneal and general abdominal inflammation, they do not forcibly impress the medical man with any particular belief of their depending upon the herniæ, because the symptoms are not clearly those of strangulation; yet he has a vague suspicion that the disorder is somehow or other connected with it. Dissection shows a very extensive

inflammation of the intestines, &c. and more especially among the contents of the hernia. The supposition which is often made upon these cases, is, that inflammation of the intestines took place, from some cause purely accidental, and which might have taken place, if there had been no rupture. I wish to show, that inflammations of this kind occur as a consequence of the adhesions, and morbid conditions which the parts in a rupture acquire, and therefore that a hernia, besides the risk of its becoming strangulated, has other mischievous, and fatal tendency.

Very large umbilical herniæ, which have been long irreducible, from the great bulk of the abdominal contents, produce very often a mortification of the integuments, together with symptoms of ileus. In all the cases which Sir Astley Cooper has seen, the patients have died. These are, as I believe, cases of inflamed hernia.

Scarpa has related some cases where the intestines in an umbilical hernia in part sloughed, producing a fæcal fistula with a recovery of the patient. Amyand also relates two cases in the 39th volume of the Philos. Transactions. Pel-

letan also relates a case where the whole hernial tumour was mortified. The woman recovered with an artificial anus.* In such cases, I should say the inflammation was nearly, or solely, confined to the hernia, and that the abdomen escaped participating in the disease.

There appears to me to be something exceedingly peculiar in the black and mortified appearance of the integuments in these cases. Some years since, I was called to a Lady, who complained of some pain, with a soreness of the bowels, accompanied by sickness; the bowels had not acted for some days. I bled her, and gave aperients, which the stomach rejected. Injections were used, but produced no effect. Her countenance was a little anxious, and her pulse was a little quickened; the pain which she complained of, was by no means severe. She was a corpulent person, and had a large family. Two or three days passed in this way, without any movement of the bowels. The symptoms above mentioned not having arisen

* At page 35, part 2nd. of Sir Astley Cooper's work, a case is related of sphacelated umbilical hernia, a separation of the gangrenous parts took place, and the patient appeared likely to recover, but died at about the end of a month.

suddenly, but gradually, and not altogether presenting the character of those which take place in strangulated hernia, my attention was not drawn to such a view of the case. As the disease continued, the symptoms gradually assumed a dangerous character, and led me to enquire if she was the subject of a rupture. She then informed me that she had been for many years the subject of one at the navel, for which she had worn a sort of capped truss; she was unwilling to let me see the rupture at first, but after some persuasion she did. Upon removing the bandages, I was shocked at perceiving a black appearance of the integuments. Upon my speaking unfavorably of this appearance, she told me that the tumour had been black a considerable time before her illness, though not quite so much so as then: this she positively affirmed. She now rapidly got worse, and there appeared no possible grounds of hope. The case did not appear to be one for which an operation could be of service, and at that time the subject had not undergone that consideration with me which it has since. She had so concealed her infirmity from her family, that her daughters did not know that she was the subject of any such disease. She died from

the combined effects of inflammation and obstruction, but which was the primary disease in this case remains with me a subject of doubt. The symptoms of ileus were not so strongly marked as in some other cases of hernia. Fæcal vomiting did not occur, but the obstruction in the bowels was of a determined character.

I am inclined to think, that inflammation of the hernia arose as a consequence of the morbid condition of the parts, which inflammation was first of a sub-acute nature, but gradually became more severe; and that the obstruction was caused by an increased morbid action in the hernia, added to an already confined state of the parts.

At page 51, of Sir Astley Cooper's work, there is a case related of inflammation and mortification of the contents of a hernia, arising, according to my idea, as a consequence of the unnatural and morbid condition which the contents of herniæ, particularly large ones, acquire. The man was a patient of Mr. Travers. It was a ventral hernia.

Mr. Travers saw him about seven o'clock, P.M.

Sunday, [1816.] The operation is thus described. "A crucial incision was made over the centre of the tumour through the dead integuments; the parietes of the sac were very thin; several convolutions of small intestine were exposed, most of them of a very dark chocolate colour, one of them I thought was more of the ash colour, and which seemed to be most advanced in the state of mortification; this was not particularly examined, but the other convolutions were; the blood in the vessels was coagulated, and could not be pushed through them. The intestines were greatly distended with flatus, to discharge which, as well as to evacuate any accumulation of feculent matter, a free opening was made by a pair of scissors through the coats of one of the convolutions; it was evacuated of its flatus, and a little feculent matter, but did not lessen the distention of the other convolutions; this portion of bowel was secured by ligature, through the mesentery, to the external parts, the contents of the sac were cold, like the external parts, and insensible. There did not appear to be any omentum in the sac; *the finger was readily* passed from the sac into the abdomen; the mouth of the sac however, was very deep, and the intestines did not appear to be strictured;

a distinct line of warmth and sensation was observed between the contents of the hernial sac, and those of the abdomen." It appears that the intestines were not returned into the abdomen, but were left in "the most easy situation." The patient died in about an hour.

"Upon examination after death, the whole sac was in a mortified state; it contained a very large proportion of the small intestines, *and considerable part of the omentum*; they were in a sphacelated state, two longitudinal bands divided the sac into three pretty equal compartments; one of the bands was formed by the remains of the umbilical vein. The mouth of the sac could admit the passage of an orange into the abdomen; it was situated in the linea alba, and about three inches above the umbilicus. The viscera in the abdominal cavity were not inspected."

Inflammation of the contents of a rupture may be distinguished from a strangulation of such parts, by the more gradual approach of the symptoms, and by their less degree of violence. From obstructed hernia from adhesion it is to be distinguished by the pain and ten-

derness of the parts generally preceding the obstruction, and by there being more decided marks of an inflammation existing. Pain, with inflammation throughout the abdomen, is generally soon manifested in inflamed hernia, whereas in obstructed hernia, it is a late symptom, and in general, scarcely prevails at all. Obstructed hernia, *may* possibly be followed quickly by inflammation, and then it would become altogether as a case of inflamed hernia, and require an earlier operation.

In inflamed hernia, the viscera of the abdomen are very extensively inflamed throughout. In obstructed hernia, very slight traces of inflammation are in general visible after death. Cases of strangulation, are of an intermediate kind; the inflammation being almost wholly confined to the seat of stricture, and the parts above it; the intestines below, being in a state of collapse, and uninflamed.

An empty hernial sac is not unfrequently, by becoming thickened and diseased, a source of inflammation to the bowels and peritoneum; but I have reason to believe that the inflammation so produced is not generally so exten-

sive or so fatal as when intestine is contained within. Coagulable lymph, or pus, forms within the sac. If the former, adhesive inflammation only has prevailed, and the patient will not unfrequently recover. When pus has formed, the case is more dangerous. An operation appears to do good, by giving exit to any pus or fluid which has been secreted.

A case of inflammation of the sac, producing general disorder throughout the abdomen, and symptoms resembling strangulation occurred very recently at Guy's Hospital. The patient, I believe, recovered, and appears to me to have been relieved by the operation of opening the sac, although neither intestine nor omentum were contained within.

TREATMENT OF HERNIA.

FROM the various authors who have written upon the subject of Hernia, and the attention which has been directed to it by the most distinguished persons, in this and neighbouring countries, the reader will be inclined to doubt whether any additional remarks can be made, in reference to the treatment of this important disease, which will be worthy of attention; but as it will be perceived in the preceding pages, that I have differed in some important points from other writers, with regard to the real nature of some varieties of herniæ, it may be expected that I may have some remarks to offer upon the treatment.

As the prevention of a disease, is admitted to be better than its cure, I shall commence this subject, by directing attention to some precautions, which may have this desirable effect. I believe, in general, before the actual protrusion of a rupture, there are some sensations which indicate a disposition to it. The patient feels at that part, during the action

of the abdominal muscles, more especially, in evacuating either the bladder, or the bowels, a sort of bulge or pressure of the intestines, more on one side than the other; and which bulge becomes gradually a more distinct sensation. In this state of the disease, I believe that its further progress may often be checked. I should recommend the person so affected, to wear a belt round the lower part of the abdomen and loins, which belt should be supported by straps over the shoulders, in such a manner, that the abdomen may be supported or lifted up; at the same time, care should be taken, that no part of the dress is worn tight round the upper part, so as to press the contents against the situation of the threatening hernia.

Where hernia has actually occurred, the patient should, in due time, make use of a truss, and by attention to its proper adjustment, and constant application, prevent, if possible, the hernia ever protruding. It should be impressed upon the patient's mind, that a rupture produces no injury, if it is kept from descending, but that if it is suffered to remain down, it may become strangulated, or may contract adhesions, and become irreducible.

When a rupture has become irreducible, the patient, must endeavour, if possible, to prevent its further increase. Every contrivance, in the shape of a truss, to make pressure on the ring, must be particularly avoided. An elastic bag truss will form the most proper support. It should be so contrived, as to close upon, and grasp the lower part of the tumour, by which means it will lessen its bulk, by promoting absorption, and render the protrusion of fresh parts more difficult. Care must be taken, that the bandage makes no circular pressure round the neck of the tumour, as to contract this part would endanger the occurrence of strangulation, and give a disposition to unfavourable adhesions, and ultimate obstruction. The patient should also by means of exercise, and by avoiding indulgences in diet, keep down the bulk of his body, and prevent accumulations of fat. In the early stages, it is probable that by confinement in a bed, and the use of a spare diet, with a pressure kept upon the base of the swelling, by an elastic bag truss, an apparently irreducible hernia may be reduced. Instances have occurred, and are related by most writers where, from confinement to a bed, from other causes, herniæ, which have been previously

irreducible, have of themselves gone up, particularly scrotal herniæ.

When a person has an irreducible rupture, which has given indications of a tendency to obstruction, by producing pain after eating, &c.; great attention to diet is required. The food should be well masticated, and so reduced and divided, as not to be likely to obstruct the passage from its solidity or size. The food taken, should be as much as possible of a fluid nature, as animal broths, soups, &c. also light puddings. New bread, indigestible fruits, &c. should be avoided. When obstruction of the bowels has occurred, it is not at once to be considered as irremediable, because many temporary impediments to the passage of the fæces occur, before a *total* obstruction is established. Sir Astley Cooper says, "umbilical hernia, often has symptoms of strangulation, subsiding and returning." I should rather say, symptoms of obstruction. These states of disorder, may very frequently be removed by mild laxatives, as the saline purging salts, &c. Calomel and opium, by quieting the disturbance of the intestines, will facilitate the passage of the contents. Bleeding and warm bathing, would

without doubt be serviceable, in allaying the irritation. The successive returns of these symptoms are generally of increased severity, and at length a total obstruction takes place, which resists all the usual means, and leaves the surgeon no other resource, than an operation, to remove the adhesions, and return the bowels.

I shall not attempt to offer any particular description of the mode of performing an operation of this nature, because it differs in no important particular from that which is resorted to in the case of strangulated intestine, with the exception of there being no stricture to divide, and there being always adhesions to separate. In an operation for obstructed hernia, there is no danger of wounding the epigastric, or any other artery of consequence; but there is danger of wounding, or injuring the intestine, unless particular caution is used in separating the adhesions. I should always prefer separating the adhesions with the finger, instead of using the knife, where it can be done; but if to do this would require considerable force, and endanger rupturing the intestine, in such case I would use the knife.

By drawing the intestine away from the part to which it adheres, and so stretching the filaments of adhesion, they may in general be very safely divided. If the hernial sac is not in any way diseased, I recommend, wherever it can be done, that it should be returned, for reasons which I shall hereafter explain. Whenever omentum is contained within a hernia, it should be particularly examined, and if it is found to have formed any general adhesions, or to have become thickened, or in any way diseased, it should, in my opinion, be cut away, and not by any means be returned into the abdomen, because omentum in such a state, is always likely to originate inflammation in the abdominal cavity, either at the present, or at some future period. Returning the omentum which has been just separated from the parts to which it adhered, appears to me for very obvious reasons to be bad practice, because it may be expected that such omentum will immediately adhere to any substance with which it may come in contact, and thus probably be a future source of mischief. To leave the omentum in the hernial sac, would be to defeat the purpose of the operation, for if not diseased, it would eventually become so, and endanger the life of

the patient, from its proneness to become inflamed, and to communicate inflammation to the interior.

As simple inflamed herniæ, independent of strangulation or obstruction, do, as I believe, very frequently occur, a question which now presents itself, and which ought to be fairly considered, is, whether there is any possible chance of affording relief by an operation? With respect to old, large herniæ, which are irreducible from want of space in the abdomen, and which are the subject of inflammation, this question, I fear, must be decided in the negative; but if a case were to arise in my practice, of the contents of a hernia, irreducible from a state of adhesion only, becoming inflamed, believing as I do, that such inflammation is produced by, or depends upon certain morbid conditions, and *connexions* of the parts in the rupture, I should not think I fulfilled my duty to my patient, unless I proposed, (upon the failure of other means,) an operation, to render the herniæ reducible.

Most surgeons will probably prefer to place their dependance upon bleeding, and measures

of general depletion, but I cannot conceive that such means ought to be relied on, while the cause which generated the inflammation still remains unrelieved. When the preter-natural condition and connexion of the parts within a rupture, is in some degree removed, then depletion may produce some salutary effect. In the opinion of most surgeons, cutting into parts already in a state of inflammation, would be the most likely way to increase it, but I do not think that this is by any means a necessary consequence. Where there is determination of blood to a part, incisions, as is the case in erysipelas, have a tendency to relieve. But, admitting that operations upon a part in a state of inflammation, have a tendency to aggravate such disease, yet, I think it brings the parts into such a state as will allow of relief: whereas the other alternative resigns them to struggle against impossibilities. Who would refuse to operate upon a strangulated hernia, from an apprehension of increasing the existing inflammation? Do we not know, that by removing the cause, we take the most effectual way of subduing the effect? And, although I believe the chance of success is much more remote in cases of simple inflamed hernia, than in cases

of obstruction, or of strangulation, yet, I think that cases may be selected, where an operation would be effectual.

The cases where it might be successful, would be those in which the herniæ were not of extreme size, and admitted of reduction easily, after the adhesions were separated. The earlier too, the operation was resorted to, the greater would be the chance of success.

In operating upon cases of inflamed hernia, the surgeon should have his views directed to the exciting cause of the disease. If there is diseased omentum, that has probably been a chief cause of the mischief, and should in all cases be removed by the knife, applying ligatures to the bleeding vessels if requisite. If the hernial sac has become thickened and diseased, I should recommend it, if possible, to be dissected away. Any appendices of the intestines which look diseased should be removed, if it can be done with safety. It may not perhaps be necessary to separate all the adhesions which the intestines in a large hernia may have contracted to each other, but the adhesions to the hernial sac should always be removed, and

every other adhesion which so confines the intestine, as to be likely to obstruct its peristaltic movements, or to diminish the calibre of its canal. If any pus should have collected in the hernial sac, the operation will allow of its discharge, and in such way may prove a very important measure of relief.

I do not think there would be much difficulty in distinguishing inflammation of the bowels, which commenced internally, from that which commenced in a hernia; the pain, swelling, and tension, would be in the belly, and not in the rupture, or at least not until a late period, whilst in inflamed hernia these effects would be primarily and principally there. Care must be taken, in cases of inflamed hernia, to learn if the part has sustained any injury or violence, because in such cases our pathological opinion and treatment must be different. An operation could not be thought of. Cases of inflamed hernia would require a more active depletion than cases of obstruction, or even of strangulation, because the inflammation is over a larger surface.

As large umbilical herniæ, irreducible from

abdominal increase, are so subject to obstructions and inflammations which are fatal, it has often occupied my mind to consider if any means could be proposed prior to obstruction or inflammation arising, which would be sufficient to avert such a result. It is obvious that a return, (or something equivalent to it,) of the intestines to the abdomen, could alone answer this purpose. Separating the adhesions which they have contracted, and afterwards leaving them in the same state of approximation would be of little service, and they cannot be put back into the body for want of space to receive them. The only way in which I can conceive the purpose could be fulfilled, would be by imitating, by an operation, that which nature sometimes does in the case, of what Dr. Gooch (I believe) first described as the "pendulous abdomen," namely, separating the parietes beneath the integuments so as to let the intestines, covered by their peritoneum, protrude altogether from the abdomen, beneath the skin, and covered by it alone; that is in effect, to make an immense artificial hernia. By this means the intestines would have free room to perform their peristaltic and floating movements; the vital functions of the parts

might thus be carried on, and the patient become subject to an inconvenience, instead of a disease. The pendulous abdomen so produced would always require supporting by means of a bandage, because the integuments would be too yielding. I wish this to be understood as a suggestion only, it is not founded on experience, as I have never seen, or even heard of a case where it has been done, or where it has even been proposed; it is the result solely of reflection upon the subject, and if it is ever acted upon with effect, it must be before inflammation has commenced. When inflammation has taken place, and the integuments have become blackened, it would be too much to expect that relief could then be given. The cases in which I should consider this operation advisable, would be where the intestines, for want of space, had been forced through the umbilicus, forming irreducible hernia, which in the course of time had given rise to pain and frequent temporary obstructions, which became more and more serious, threatening to destroy, and that shortly, the life of the patient. In such cases, an attempt of this kind might be justifiable. The practicability,

or probable success of such a proceeding can only be determined by experience.

A question now arises, How is such an operation to be performed? I will shortly state how I have thought I should proceed, if a case presented itself to me wherein I could feel sufficiently justified in the attempt. I should make an incision through the integuments, and open the hernial sac, and proceed carefully to separate all important adhesions; and as the omentum is generally the most adherent part, and is the most frequent source of disease, I should cut it completely away. I should then pass my finger on the outside of the hernial sac into the abdomen, between the peritoneum and the parietes, and afterwards, by introducing a knife properly constructed, endeavour to cut through the linea alba in a direction downwards, so as to allow the abdominal parietes to separate, which I believe they would subsequently do to a considerable extent, from the constant pressure of the intestines. I should divide the linea alba only, and should avoid, if possible, carrying the incision through or into the integuments. I should expect by this means to gain sufficient abdominal

space to pass back the contents of the hernia, and by securing them by properly constructed bandages within the abdomen at that part, a corresponding protrusion would probably take place below, if not directly, at least gradually. This protrusion taking place from a large opening, and forming to itself a large space outside the parietes, would not, I think, be so subject to those adhesions, and consequences which occur in the more confined situation of umbilical hernia.

The above suggestion I leave to the consideration of the profession. I have introduced it more as a hint than as a recommendation. It is probable that the dread of dangerous consequences may deter surgeons from ever adopting it, except in those cases where inflammation and obstruction have occurred, and where the life of the patient is in immediate peril, and then the chances of success would be still further diminished; but even then, the knowledge that the patient was submitted to no additional danger, and that the operation was not particularly painful, would justify the attempt.

When an umbilical hernia, irreducible from its bulk, produces symptoms denoting a genuine inflammation of the parts, distinct from obstruction or strangulation, (which form of disease is I believe of the most frequent occurrence,) the above proceeding would perhaps be inadmissible. It may seem, upon such a view of the subject, that such cases are altogether hopeless. I feel, however, inclined to recommend that an operation should be undertaken to remove any thickened and diseased omentum, in the hope that when so frequent a cause of disease is taken away, the inflammation may be combatted by the usual depletory treatment, as bleeding, mild aperients, calomel and opium, &c.

CONSIDERATIONS RESPECTING AN OPERATION FOR RETURNING AN IRREDUCIBLE HERNIA, WITH THE PROPOSAL OF A PROBABLE METHOD OF RADICAL CURE.

OPERATIONS upon herniæ are not considered necessary, or justifiable, by surgeons of the present day, unless strangulation has occurred. I have, I flatter myself, distinctly proved that an operation is frequently required for herniæ, when no distinct strangulation exists, and where there is no stricture to be divided, and I think I may venture to affirm, that cases may arise where an operation is justifiable and necessary, although there is no *immediate* danger.

If a patient with irreducible rupture, should be troubled with frequent and considerable intestinal derangements, as vomitings, colic, and pain after taking meals, with frequent obstructions of the bowels, which symptoms appeared to be gradually increasing in violence. I should consider such a state, although not indicating any immediate danger, yet as infallibly denoting such a state of adhesion and change

of the parts contained within the rupture, as to believe that the time was not far distant when an operation would be absolutely necessary to save the patient from falling a victim to a mechanical obstruction. Under these circumstances I should think it right to propose an operation, which would have the effect of permanently relieving those painful symptoms, and of removing from him an impending danger. I know that this opinion is not in accordance with that of other authors, who do not recommend an operation upon the prospect of a necessity, but would rather wait for its actual occurrence. It must, however, be recollected that these writers were not aware of the additional danger of these cases, arising from adhesions; they only looked to a probable and remote chance of strangulation, and, therefore, they wisely abstained from performing an operation to remove an inconvenience unconnected with positive danger. But in the case which I have put, there is a real disease existing, producing highly painful and threatening symptoms, with the prospect almost certain of an operation becoming absolutely necessary. The danger to the patient must be assuredly less when the operation is performed, before ob-

struction or inflammation has commenced, than when such are in actual progress; besides, the consequences of leaving the intestines to struggle against these continued causes of obstruction, are, to produce a still further change, and morbid alteration of their structure, which would render the ultimate success of the operation more doubtful. Many surgeons will probably argue against an operation of this kind, unless a radical cure can be effected, because, as they will contend, unless the opening from the abdomen is closed, the intestines will again descend, and produce a renewal of the same adhesions, with their consequences. Before entering upon the subject of a radical cure, a method for which I shall hereafter explain, I will reply to the above objection by saying, that as the irreducible rupture has probably been occasioned by the patient's neglect in not wearing, or attending to the proper adaptation of a suitable truss, it is not likely that he will again become a sufferer from the same negligence.

In performing an operation for the relief of an irreducible adherent rupture, many circumstances require to be duly considered, and a

degree of selection with regard to the particular case is necessary, for if an indiscriminate recourse to an operation in irreducible hernia, were ever to become a general practice, its want of success, would soon bring it into discredit and disuse. The peculiar success which has attended some surgeons in their operations, has not arisen so much from superior skill in operating, as from a more judicious selection and consideration of the particular case requiring it. If the hernial swelling is of great bulk, and it is probable, that when the adhesions are separated, the hernia could not be returned, from the want of capacity in the abdomen to receive it, or from the morbid alterations which it has undergone, the operation should not, except from a certain and immediate apprehension of the loss of the patients life, be attempted. But if the hernia be small, and be in part reducible, and yet give rise to symptoms of increasing derangement and obstruction, then the operation will be justifiable, and will afford the fairest prospect of success.

In Mr. Lawrence's Treatise on Ruptures, the subject of Radical cure is canvassed at con-

siderable length, and the opinion of the author seems contrary to that which I have here expressed; but let it be remembered, that the *principles* of this distinguished writer's objection, do not apply to those cases wherein I have advocated its adoption.

Mr. Lawrence objects, that an operation attended with some degree of risk, should be had recourse to, for the relief of that which is at the most, but an inconvenience. I, on the contrary, only propose to apply it to those cases, where there are symptoms of approaching obstruction, and highly probable indications of a fatal result. Mr. Lawrence likewise objects to the operation, upon the principle of its being inadequate for the purpose for which it is proposed, the various means which have been suggested and tried, not being likely to effect a closure of the abdominal aperture through which the intestines protrude. I propose to submit to the consideration of the profession, a plan of an operation, differing in a very essential point from any which has hitherto been proposed, and which, I humbly believe, affords more probable grounds of answering the intended purpose. I have performed it

upon the brute subject, with the most complete success, and the inference which I have drawn, is, that it would be equally successful with the human. The particular operation to which I allude, I will here briefly detail.

A friend of mine, had a favorite and very valuable pointer bitch, the subject of a very unsightly, and enormous hernia, which from its great size and weight, rendered the animal nearly useless, and her owner had considered the propriety of destroying her. I begged to be allowed to try the effects of an operation to return, and retain, the protruded bowels in the abdomen. From the time the hernia had existed, and from its very large size, I had great doubts of success. I began by reducing the condition of the animal, as I foresaw that the less superfluous fat there was upon the omentum, and in the interior of the abdomen, the greater was the chance of success in returning and retaining the parts. When she was sufficiently reduced, I began the operation by feeling for the opening through which the intestines protruded from the abdomen; upon distinctly feeling this, which was in the situation of the inguinal ring, I began the inci-

sion directly over it, carrying it about half way down the surface of the tumour, and through the integuments. I then cut through a quantity of fine cellular structure, and opened the hernial sac, and found omentum and intestines within. I began immediately to draw the parts up from the bottom of the tumour, and to push them with my finger through the opening into the abdomen; but I found there was one considerable portion which I could not reduce, owing to its strong adhesions below. Having always been able apparently to return the hernia, I was surprised to find it irreducible, but it seems, it was the omentum and one portion of intestine only, which was returnable, another portion, being firmly connected to the parts out of the abdomen, had never admitted of reduction. I however proceeded by inverting the hernial tumour, by which means I could see the whole irreducible part of the intestine, without the necessity of laying the sac open to the bottom; this discovered to me that the bowel was not simply adhering to the hernial sac, but that its coats were absolutely incorporated with it, having no line of separation. To attempt in this case to dissect the bowel away from the sac, would have been at

a very considerable risk of wounding it; but it occurred to me, that I could separate the sac from the integuments, &c. forming the hernial pouch, to which it had become closely joined. In this I succeeded, and returned the intestine and sac into the abdomen, adhering as I found them. The opening from the abdomen was so considerable, that unless my finger was almost constantly there, I could not prevent the parts from again protruding. The difficulty now, was to retain the bowel within the abdomen. A bandage was of no use, and my object was to gain a radical cure by effectually closing the abdominal opening. I succeeded in preventing the parts from protruding, by means of the quilled suture, substituting pieces of wood for quills; these being drawn closely over the opening, prevented any immediate descent of the hernia; but I saw clearly that the purpose of the operation could not in this way be fulfilled, for the abdominal opening could not be closed by means of the integuments, which would necessarily unite anterior to, and not over the ring, and therefore, the intestines might again force their way beneath them into the cellular structure. However, the immediate return of the hernia was prevented by it,

but I must confess, I had but few hopes of its ultimate success. I finished, by closing the remaining part of the wound by sutures. The pressure of the quilled suture upon the vessels of the thigh, obstructed the passage of the returning blood, and caused œdematous swelling to some extent in one limb; I relieved this by incisions, and at the end of about four or five days, removed the sticks and ligatures. The removal of the sutures relieved the swelling, and the animal recovered rapidly. Some physic which I gave her, operated freely, without occasioning any disposition in the parts to return. The operation was performed in August, and the bitch was used during the shooting season of September and October, and proved equal to any exertion that was required. Having subsequently removed the pouch which contained the protruded bowels, no trace of the deformity remained. I had the satisfaction of seeing my canine patient perform her duties with alacrity and vigour; and of receiving with the apparent gratitude of the animal the warmest thanks of her master.

The radical cure in this case, appeared to me to be owing to the return of the hernial

sac. It was separated from a very close adhesion to the hernial pouch, by means of the fingers and the knife, and it was returned in this state of recent separation, into the abdomen, ready to attach and unite itself to any surface to which it was opposed. By its inclination to descend again, it was, although kept in the abdomen, closely applied to the abdominal ring, over the interior of which it without doubt closely adhered, and by such means completed, although in a manner I did not contemplate, the radical cure.

On calling upon her owner some considerable time afterwards, the bitch was brought for my inspection. Upon turning her round, and inspecting the abdomen, I was at first disappointed in finding, what I thought a return of the hernia; but upon a more close examination I was gratified in observing, that there was no return of the original rupture, but that a protrusion was taking place, at the other abdominal ring. This was peculiarly confirmatory of a complete radical cure having been effected. The animal had been kept by her owner in London, where she was closely confined, without receiving any exercise, and had become

amazingly fat. The abdominal contents in this way becoming disproportionate to the size of the abdominal cavity, had forced their way through the opening in the parietes. In this way the first rupture was occasioned, and this second was taking place from the same cause. Had not the opening, through which the first hernia passed, been sufficiently closed by the operation, the bowels must have again passed in this direction, but the opening of the first hernia was so completely shut up by the adhesion of the hernial sac, that the abdominal ring on the other side gave way to the pressure of the bowels, instead of the former aperture. This has proved, that the operation rendered the abdomen at that part more secure than it was originally formed. I have been exceedingly gratified by the results of this case, because it has completely demonstrated the possibility of radically curing hernia.

From the success attending the above case, I am induced to recommend in all cases of operation for hernia, that the sac be returned; because by such means, the additional advantage is gained of a chance of radical cure. By leaving the hernial sac, a direct channel of com-

munication is preserved between the abdominal cavity, and the situation of the hernia; by returning it, besides the probable chance of its adhering over the abdominal ring, and thus effectually closing it, we produce a somewhat broken communication between the exterior, and interior parts.

The supposed difficulty of returning the hernial sac, when adhering to the surrounding parts, is the reason why it is not recommended. That it may sometimes be difficult, I do not question; but I really believe, that in most instances, it may without much trouble be effected. The adhesion of the sac to the surrounding parts, however close, is only cellular, and may, by drawing it in an opposite direction, be readily separated; in the same manner as the common integuments are raised from the muscles beneath them. In some cases, where there is a considerable morbid change of structure, it may without doubt, be almost impossible to do this; all that I advocate, is, that where it is practicable, it should be done.

Returning the sac in the manner I have recommended, may be considered as more

likely to be followed by peritoneal inflammation, than the usual way of leaving it externally. I doubt if such inflammation is at all more likely to follow this, than the usual method of operating; (unless the sac should be much diseased,) and I believe surgeons generally, are beginning very much to lose their apprehensions upon this head.

Operations requiring an opening into the abdominal cavity, are much more frequently ventured on now, than formerly; and with a degree of success which had not been anticipated. Dr. Blundell has shown, (as far as experiments on animals are a test, and I think they are among the fairest that can be offered) that inflammation of the peritoneum does not so generally follow wounds of the abdomen as was formerly apprehended. The very great success which attends most of the cases of operation for strangulated hernia, when it is early resorted to, are a still further proof of this fact.

Mr. Lawrence, in that part of his Treatise which speaks of the radical cure of hernia, has brought forward a great portion of evidence,

in proof of the unsuccessful nature of the attempts; and also many examples to shew the danger attending them, which he believes to be equal to that attending the operation for strangulated hernia; and he has quoted several authorities in accordance with his own opinion; but notwithstanding this, I cannot agree in the belief, that as much danger can prevail in an operation upon a hernia which has undergone no inflammation, as in those cases where strangulation and inflammation exist, except where the hernia is very large, and very complicated. Rupture curers were at one time very general, and it could not be expected, that without a knowledge of anatomy, and with so barbarous a manner of operating as these itinerants practised, where the testicles were destroyed, or removed in the operation, that any great degree of success could follow; yet, if death had been the most frequent result of even this barbarous proceeding, the practice would not have continued so long as it did. It appears to have fallen into disuse, more from the circumstance of the ruptures being found to return again, than from the fatality attending the operation. Mr. Lawrence says, Page 115, "By a report presented to the Royal Society of Medicine, in

1779, it appears that the intendant of Police at Paris had observed that many individuals, who came under his inspection previously to entering the military service, had been deprived of one or both testicles, by operators of this description." Thus it appears, that the operation was not so generally fatal, as to prevent it from being followed.

I perfectly agree with Mr. Lawrence, that an operation attended with risk, ought not to be resorted to solely for the relief of an inconvenience; but I beg again to observe, that I have proposed it only when the symptoms are such as indicate a considerable amount of disease, and a probably fatal termination.

I am disposed to be less apprehensive of the occurrence of peritoneal inflammation after operations for hernia, than many others; because I believe, that very many of the cases of death from inflammation after the operation for strangulated hernia, are a consequence of the adhesions which the bowels may have formed, not being attended to; or they are cases of inflamed hernia.

In the remarks which I have offered, and the favourable opinion which I have given, of the probability of a radical cure being obtained in operations for hernia; I wish it to be understood, that I do not recommend the operation to be undertaken for this purpose solely; but when an operation for hernia becomes absolutely necessary, whether from strangulation or from obstruction, or in consequence of the existence of such symptoms as denote its approach; then let it be borne in mind, that it is possible so to perform the operation, as not only to relieve the peculiar state for which it was undertaken, but also to effect the desirable result of a radical cure of the disease.

I have distinctly stated, in a former part of this Treatise, with due deference to the very high authority to which I am opposed, that I do not approve of the plan of operating upon strangulated hernia, without opening the sac, and for reasons which I have there given; namely, that it is impossible to know the condition of the parts within, whether gangrene may have taken place, or if such a state of adhesion may not exist, that obstruction may continue, even after the stricture is removed.

It is evident, that returning the hernial sac alone, unless we can cause it to adhere over the interior of the opening through which the hernia protrudes, can never ensure a radical cure. To produce this effect, it is necessary that care should be taken to preserve the patient in such a position of body, that the returned bowels, with the sac, may be applied over the interior of the abdominal ring; at the same time that a fresh descent of the parts is sufficiently guarded against. If the patient is allowed to lie in a position completely horizontal, the bowels may probably sink so far within the abdomen, as to be distant from the abdominal ring, and consequently, adhesion at that part may be prevented. The half supine position, appears to me best calculated to apply the bowels and the hernial sac, to the proper part; but in adopting this, great caution is required to prevent a fresh protrusion. The greatest danger is, during a straining to evacuate the bladder, or the bowels. The patient should be warned of this, and taught to guard against it, which with proper directions, he will generally be able to do. If there is much tendency to a protrusion, he had better lie down completely, at such periods. The peculiar position

which it is best for the patient to maintain after an operation, in order to procure the particular adhesion to which I have alluded, will generally be discovered by the surgeon during the operation. If, upon returning the hernia and the sac, he should find that they immediately sink into the abdomen, away from the part through which they descended, which I believe will be found not often to be the case, it will then be necessary to preserve the supine, or perhaps the sitting posture; but if they should remain over the opening, and should not recede, even when the patient lies down, which the surgeon may easily ascertain with his finger, or a director, then the patient may lie as usual. If the hernia is inguinal or femoral, the patient may recline rather upon the side which was affected. The above directions are I think sufficient, as the surgeon's own judgment will suggest in each particular case, the means best adapted to cause the intended effect.

Returning the hernial sac, is, without doubt, a measure which may have been occasionally resorted to in the operation for strangulated hernia, without the effect of a radical cure being observed to follow, and this is easily

accounted for. As no particular object or result has been expected to be gained by a return of the hernial sac, this plan has not been recommended or pursued generally, and consequently, wherever it has been adopted, it has been in some few casual cases, where the sac had contracted no adhesions, and where it was easily returned. It may therefore be readily seen, that a radical cure in these cases was not likely to occur. It requires that the sac should have generally adhered to the surrounding parts; and that it should be separated from the surfaces to which it adhered, and returned in a state of recent separation into the abdomen, to produce a radical cure; therefore, in cases of recent protrusion, where the sac has not adhered, a radical cure can scarcely be expected from its return, but in irreducible hernia, where the sac has generally adhered, returning it may be expected to be followed by a sealing up of the abdominal opening.

REMARKS ON MECHANICAL OBSTRUCTIONS OF THE BOWELS, WITHIN THE ABDOMEN.

As I have shown in the beginning of this book, that fatal obstructions of the bowels from adhesions within a hernia, do occasionally, and as I think, very frequently occur; so also I think it will be allowed, that the same causes may operate upon the intestines within the abdomen, producing the same symptoms, and the same result, and possibly admitting of relief in the same manner, if any degree of certainty in the diagnosis could be obtained. I am disposed to believe, that inflammations and obstructions of the bowels are very frequently produced by causes of this kind, much more so than has been generally supposed. Whoever has been much in the habit of inspecting bodies after death, will have noticed in those who have passed the middle periods of life, that old adhesions are very common, both in the cavities of the abdomen and the chest. That these adhesions do not in the majority of cases produce any ill effects, I admit, but it is more than

probable, that in some cases, they may tend to fix the vital organs, in so unfavourable a position, that a healthy performance of their respective functions, is impeded, and in some cases totally arrested. One circumstance is particularly favourable to the opinion that diseases which pass as Enteritis are often occasioned by mechanical obstructions; and that is the fact of that disease being described as more frequently occurring in persons who are advanced in life; and in these it is well known, that adhesions are the most frequently found.

The intestines within the abdomen, have naturally no fixed connexion; they are suspended in such a manner within that cavity as to allow of very extensive, and what I should term floating movements. That this particular formation is well adapted to the function they have to perform, is very evident. If they had consisted of one straight tube, their office might have been carried on by the force of gravity, they remaining as passive agents; but consisting as they do of various and lengthened convolutions, now ascending, and now descending, it is plain, that without a proportionate, and constant activity of this tortuous tube, a

regular passage through it could not be maintained. This action of the bowels, consists in a vermicular sort of motion, performed by means of the muscular structure with which they are provided; but it is clear that this particular motion cannot be perfectly carried on, unless the intestines are loose, and unconstrained, which in a natural state, they are. But the intestines are liable, from various causes, to contract adhesions to different parts of the abdomen with which they may be accidentally in contact; these adhesions in many instances produce little or no derangement, but in many others, they are without doubt impediments to the efficient performance of the peristaltic action; and in this way, I think, may be explained the occasional obstructions, attended more or less with pain, to which some people are subject. It is probable also, that some cases of constipation owe their origin to causes of this nature. Adhesions may produce in some cases, only a trifling and occasional disorder of the bowels, which the person may feel throughout the whole period of his life, but which never increases, because, probably the position in which the bowel has adhered, is not the most unfavourable; nor has the adhe-

sion proceeded beyond what was first produced: but in other cases, the bowels may be so completely fixed, and in so unnatural a position, that their regular movements are at first partially, and at length totally suspended. If symptoms of ileus occur in a person, from a cause of this nature, it is evident that no permanent relief can be obtained, without the intestines are released by an operation.

In the late edition of Sir Astley Cooper's work on Hernia, there are some exceedingly important, and judicious remarks, by the Editor upon this subject. In canvassing the propriety of any attempt to relieve by a surgical operation, in cases of mechanical obstruction, the Editor says, "Although the progress and symptoms of the case may in most instances lead to a correct opinion as to the existence of mechanical obstruction; yet it is by no means so easy to ascertain the precise nature of the cause that gives rise to the obstruction; and hence the first difficulty that arises, will be to distinguish between the different causes of intestinal derangement; for instance, intro-susceptio; stricture of the larger bowels, from disease of its coats; adhesions of the convolu-

tions impeding peristaltic action; constriction from adventitious bands of adhesive matter; protrusion of a portion of bowel through an opening in the mesentery and mesocolon, attended with strangulation, &c. Now as fæcal obstruction and consequent inflammation are the uniform effects produced by these various causes, and as the train of symptoms will, with few exceptions, be distinguished only by a slight shade of difference, the diagnosis will amount to little more than conjecture. An exception may be made in the case of children, who are more disposed to some of these causes than others; and also in the instance of chronic stricture of the large intestine, when the previous history may lead to a correct diagnosis."

I perfectly agree with the author of the above remarks, that correctly to distinguish between each of these various causes of obstruction, is exceedingly difficult; but I differ from him in believing that such a distinction is absolutely necessary. If a correct opinion as to the *existence* of mechanical obstruction can be formed, it is in general sufficient. Intro-susceptio; adhesions of the convolutions; constriction

from adventitious bands of adhesive matter; protrusion of a portion of bowel through an opening in the mesentery and mesocolon, attended with strangulation; all of them admit of probable relief through an operation; the only one of the causes of mechanical obstruction enumerated, for which an operation would appear to be useless, is chronic stricture of the large intestine, and in such cases, as the Editor of Sir Astley Cooper's work has stated, "the previous history may lead to a correct diagnosis." The ingenious Editor admits, that "there is unquestionably much less danger attending penetrating wounds of the abdominal parietes, than was formerly supposed." His principal objections to an operation, are contained in the following extract.

"The possibility of affording relief when the abdomen is laid open, and the obstructing cause exposed, may in many instances be decided in the affirmative; thus constricting bands may be removed, involved portions of gut may be released, an adherent convolution be detached, or a gut distended above the seat of stricture be relieved; but it is to be borne in mind, that gastrotomy will be had recourse to

only as a dernier resort, when other remedies have failed, and the symptoms have assumed an aspect promising but little chance of success. At this advanced period, peritonitis will have supervened, adhesion may have inseparably bound it to the surrounding parts, or gangrene may have prevented all chance of repair; and thus, though the cause of obstruction be removed, the effects in the majority of cases will continue, and lead to a fatal termination."

Although admitting, in great part, the truth and force of the above reasons, yet I cannot but view in a more favorable light, than the ingenious Editor, the attempt to relieve mechanical obstructions by an operation. The operation must without doubt be often unsuccessful, and the prospect of relief in all cases exceedingly doubtful; but it is to be remembered that we are not choosing between two or more means of relief, but deciding whether we shall resign a patient up to inevitable death, or attempt the only possible means of rescue. The operation is not to be undertaken, until it is proved that the obstruction cannot be removed by other means; nor unless the symp-

toms point out, with a tolerable degree of precision, that the obstruction is mechanical, and also give some good grounds for conjecturing its probable situation.

I am induced to believe, from the observations which I made during the progress of the two cases related in the beginning of this work; not only that peritoneal, and general inflammation of the abdomen, do not *invariably* take place, in fatal cases of simple mechanical obstruction; but that they do not *generally* occur, except in a subordinate degree. In the former of those cases, the obstruction continued more than twelve days, yet, even to the last, there was no general tension, or tenderness of the abdomen; nor was there any swelling. Just round the situation of the hernia, there was a degree of tenderness when pressure was made, but in no other part. After the operation, the patient gradually recovered, nor was there any trace, or symptom of general inflammation existing, or of its having prevailed. The latter case was a still more satisfactory proof of this point. The patient died from the obstruction, yet inflammation of the peritoneum had not taken place, nor of the intestines, except an

inch or two above and below the part which had become obstructed. The long continued suspension of an important vital function, appears to be amply sufficient to occasion death, without the intervention of general inflammation; and therefore, as, in many of these cases, very little inflammation or disorganization is the consequence of even a long obstruction, it seems but reasonable to expect, that an operation which would release the intestines, and allow them to resume their functions, would restore the prostrated energies, and save the life of the patient.

Whoever has witnessed the progress and termination of a mechanical obstruction, and has seen the utter uselessness of every method of relief which has been proposed, either for the removal of the disease, or the mitigation of symptoms, must have felt the importance of obtaining such information as may lead to a tolerably correct opinion of the peculiar nature of the obstruction, and at the same time enable him to undertake some probable, or possible mode of relief. Enteritis is the disease, with which internal mechanical obstruction is likely to be confounded; and with this impression,

the medical practitioner would place his reliance upon the lancet. Taught to believe that the remarkable depression of the pulse, and vital powers, is a peculiar effect of inflammation of the intestines, and that he is to estimate the measure of his relief, by the boldness of his proceedings, and by the increased freedom, and fullness of the pulse which is to be the result; he goes on, so as almost to annihilate both the patient, and his disease: till becoming alarmed at the increased prostration of strength, and sinking, depicted on the patient's countenance, his mind wanders from one remedy to another; and he endeavours to combat the sinking and depression by the use of stimulants; but finding that he has no more success in raising the pulse and powers by these means, than he had of setting them free by bleeding; he becomes confused with these proofs of the inefficacy of all remedial measures, and either uses no further means, or uses them without care and without reflection. The patient dies, and is probably buried without any examination. It is likely that the practitioner may afterwards relate to his medical friends, this *intractable* case of Enteritis, and in canvassing the question of the inefficacy of the measures used, he probably

finds that they are of opinion, that he did not carry his depletory system far enough,—that another bleeding would perhaps have produced an impression upon the disease. Although in his own judgment, he had used the lancet to a justifiable extent, yet in consequence of this opinion of others, he determines in any subsequent case of the kind, to deplete until some favorable change in the pulse is produced. If after this, any similar case should arise in his practice, the probability is, that the depletory treatment will be carried to a dangerous extent; fatal syncopy will perhaps be induced; and the By-standers become impressed with a conviction, that rashness, and not judgment, guided the treatment. The practitioner retires, with the knowledge that he has suffered in the estimation of all those who were witnesses of the case. How different to the above, would be his proceedings, could he divine or obtain an idea of the real nature of the disease! He would in such case, assure the friends, in the first instance, of the little hope he had of success. He would take blood as a precautionary measure, and not with a view of positive cure. If he had hope, it would be founded upon the

chance of the obstruction not being total, and with this hope, he would endeavour by purgatives and injections, to remove it; he would be guided in his judgment of the degree of inflammatory action, by the quickness of the pulse, by the fever, and heat of the body, and by the abdominal tension and tenderness, and not by the marks of sinking and depression of the pulse only. If all that he could do, failed to remove the obstruction, and the patient appeared to be gradually sinking; he would perhaps think of the possibility, or lament the impossibility of removing it by an operation. His prediction from the first would be verified, and the subsequent examination, if he could obtain it, would satisfy his own mind, and the patient's friends, of the correctness of his judgment, and raise him in future in their estimation. To lay down such rules, or to draw such a line of distinction, as may enable a medical practitioner to obtain even this result, will be rendering some service to the profession; but if we can go further, and show in what cases an operation may probably save a patient, and how a surgeon may undertake it with some prospect of success, the practice of the

profession will be rendered in some degree an easier task, and its true value and importance, still further enhanced in the opinion of mankind.

Those only who have been so situated, can judge of the painful and irksome situation of a medical practitioner, who is doomed to witness the gradual extinction of the life of his patient, from the effects of a disease, the remedy for which, is within his comprehension, but beyond his reach. I cannot envy the feelings of that man, who can calmly survey such a scene, without feeling an intense desire to bring the remedy within the reach of possibility; and to render an attempt justifiable. In the eyes of some persons, these attempts may be considered rash, but the other alternative, is deliberate cruelty. Many surgical operations which are now performed with very general success, were at one time less plausible, and not more justifiable, than those which I have throughout this work recommended.

I think it will be conceded to me, that if any indications can be pointed out, by which a

tolerably correct opinion can be formed of the existence of mechanical obstruction, and by which its particular situation may be properly inferred, a practitioner of medicine and surgery, would fail in his duty, if he did not prefer recommending his patient to undergo an operation, which would afford some fair grounds for expecting relief, to the alternative of resigning him up to certain destruction, without hope, and without remedy: particularly as the operation, if it does not succeed, does not render his condition worse, and is well known to be attended in the generality of cases, with but an inconsiderable degree of pain.

OF THE SYMPTOMS DENOTING MECHANICAL OBSTRUCTIONS OF THE BOWELS, AND THE PROBABLE SIGNS DISTINGUISHING THE DIFFERENT VARIETIES.

THE disease with which mechanical obstruction of the bowels is usually confounded, and for which it is usually treated, is Enteritis; nor can this be wondered at, because enteritis is a very frequent sequel, or effect, of obstruction, and the symptoms and appearances of both resemble each other. But, notwithstanding this affinity or resemblance between mechanical obstruction of the bowels and common enteritis, I think I shall be able to show such distinctions, as will in future enable professional men to discriminate between these two states of disorder, and also in cases of obstruction, to judge in some degree, of its peculiar character.

Mechanical obstructions of the bowels, of whatever kind, produce a certain order of symptoms, which constitute a disease usually

described under the term ileus; the chief signs of which, are, pain in the abdomen, more or less sudden; and an incessant vomiting, and rejection of every thing taken, the matter vomited becoming of the appearance of fæces; and this latter symptom is the chief, or peculiar sign of ileus: there is also a constipation of the bowels of the most determined character. To these symptoms usually *succeed* more or less of pyrexia, heat, tension, and tenderness of the abdomen. In common enteritis, the febrile or inflammatory symptoms are primary, those of obstruction following as a consequence, and being much less marked, and rarely if ever amounting to a degree to constitute ileus. By attending in this order to the symptoms, we shall be able in most cases to judge of the particular disease.

Mechanical obstructions of the bowels may be divided into three kinds, namely the acute, the sub-acute, and the chronic. Of the acute kind, are strangulated intestine, internal, and external; and the more violent forms of intro-susception. Obstructions from the lodgement of a foreign body, are, I believe, of an acute nature generally, although I believe they mostly

commence in a sub-acute form, acquiring more or less suddenly the acute character. The sub-acute kinds of mechanical obstructions are those which arise from adhesions. Chronic forms of obstruction, are those which are caused by chronic stricture of the intestines.

The acute kinds of mechanical obstructions, are to be distinguished from enteritis, by the pain being more sudden, and more severe, the vomiting also occurring earlier, and being more constant. The pain also arises, and is felt more in one part, and is not so diffused, or general, as in enteritis, although much more violent. The stomach rejects every thing, the pain is intense, and is felt where there is strangulation at the stomach, with a dragging sensation; there is also extreme impatience, and uneasiness, with an altered and anxious appearance of the countenance. After these symptoms have existed some short period, heat, thirst, quick pulse, and the usual signs of inflammation are produced; the abdomen becoming tender, and getting worse: but the chief distinction is, that in enteritis the feverish state oftentimes precedes, or is at least simultaneous with the pain, which is neither so sudden, nor so violent, as

in acute obstruction. The mechanical nature too of the latter, will rarely allow of its being mitigated by remedies, as the former frequently is. The constipation in enteritis is by no means so obstinate, as in mechanical obstruction; stools not unfrequently being procured: the countenance is less anxious, and the disorder from the first, does not assume so formidable a character.

Acute mechanical obstruction being distinguished from enteritis, the next, though by no means so important a consideration, is to distinguish its different varieties. Internal strangulation, and intro-susception of the bowels, being both highly acute forms of obstruction, it would appear that it must be extremely difficult, if not impossible, to distinguish them. Mr. John Hunter, who published a paper upon this subject, has said, "An intro-susception can never be perfectly known till after death; but where there are violent affections of the bowels, attended with constipation, we have reason, from the cases which have been examined in the dead body, to suppose that this disease may be the cause of them. There are, however, so many other diseases

which produce the same symptoms, that nothing can be ascertained."

With the greatest deference to the authority here quoted, I yet believe, that intro-susception presents some peculiar diagnostic symptoms, by which it may very generally, although not perhaps with absolute certainty be known. From enteritis, it is to be known by those distinctions which have already been pointed out, and which it possesses in common with internal strangulation. From the latter, it is to be distinguished by one peculiar feature, which I have particularly observed, and almost invariably found detailed among other symptoms, in those histories of cases which are occasionally published, and that is a tenesmus, more or less violent, sometimes accompanied with slight mucous discharges, often mixed with blood. If the disease is violent, the tenesmus is violent, and the straining for stool, is particularly severe. Most writers who have published cases of this disease, mention this particular symptom among others, and yet as far as I have seen, have never alluded to it as a diagnostic symptom. Dr. Hull of Manchester, who published some remarks upon this

form of disease, in the seventh volume of the Medical and Physical Journal, is of opinion that there is no symptom, which will enable us to determine the presence, much less the seat of intestinal invaginations, unless the part intro-suscepted come down into the rectum. In those milder forms of intro-susception, which sometimes occur, where the disease is more of a sub-acute, than of an acute character, it no doubt is difficult to distinguish; but then fortunately, its distinction is of less importance, as the question of the propriety of an operation would never in such cases come to be considered. It is where the life of the patient is immediately threatened, and where an operation presents itself as the only chance of relief, that a clear distinction is positively necessary, and then I think the frequent and violent tenesmus, in addition to the other symptoms of acute ileus, will not fail to prove a correct criterion.

If we reflect upon the nature of intro-susception, tenesmus, or frequent and painful attempts at stool, appear to be a necessary symtom, or consequence of such a state of the bowels. One portion (an upper) descending

into, and getting included within the calibre of another, and lower, would without doubt, excite a propelling, or evacuating movement, in the latter portion.

In a memoir on morbid invaginations of the intestines, by Dr. Dance of the Hotel Dieu, the reader will find that tenesmus is almost invariably mentioned among the symptoms, in cases there related. I have never found tenesmus to prevail as a symptom, in cases of strangulated intestine, nor in obstructions from adhesion, but in cases of obstruction from foreign bodies within the intestines, if the lodgement is in the larger bowels, tenesmus is, I believe, a general accompaniment of the other symptoms.

A somewhat unusual case of this kind, came under my care some few years since. A boy of ten or eleven years of age, was taken with pain in the bowels, attended with obstinate obstruction, which resisted all the means that were made use of to procure a passage; the sickness was by no means violent, or constant: this state continued three or four days, when at the earnest request of his father, I saw

him. I found the boy writhing and screaming with the pain he endured. He had a continued tenesmus, or desire to evacuate his bowels, without the power; the pain in his bowels he described as extending to the anus; there was not much tenderness, or tension of the abdomen, nor was there depression of the pulse, or vital powers; the symptoms appeared to be those of a fierce struggle in the intestines, to remove some impediment to their natural action. The conjecture which I formed of the disease was, that it was invagination, and, as he complained so peculiarly of the pain extending towards the anus, I passed my finger up the rectum, to judge if I could ascertain any thing by an examination. As far as my finger would reach, I could feel a hard tuberculated substance, which appeared to distend the rectum at that part; by moving the point of my finger, I separated a small tuberculous portion which I brought with my finger out from the anus. Upon examining this substance, I found it to be a cherry stone; this, with my subsequent enquiries of the boy, sufficiently explained the case. He had been placed in an orchard to scare the birds away from the crop of cherries, and had turned plunderer himself. He

had eaten great quantities, and had swallowed the stones. I procured a large table spoon, and by introducing the handle of it into the rectum, I by degrees scooped these substances away, and gave the boy very complete relief. It took me a considerable time to do this. Upon counting these substances afterwards, I found I had extracted to the number of 312; more remained, which I could not reach; but I had taken away the bulk, which occasioned the obstruction. I gave the boy some aperient medicine, and without any further attention he recovered.

I was struck in this case, with observing the very trifling degree to which inflammatory symptoms prevailed; and I am disposed to believe, that there is no great or general proneness to diffuse inflammation in cases of simple mechanical obstruction. I believe that patients in these cases, may often die from the mere suspension of the function of the bowels, without any destructive inflammation ensuing.

The sub-acute kinds of mechanical obstructions, are those which are produced by some unfavorable adhesions of the bowels; they are

to be distinguished from the acute, by the greater mildness, and slower progress of all the symptoms; pain is felt at some particular part of the bowels, which pain has generally arisen after taking a meal; vomiting quickly supervenes, after which, the patient is considerably relieved; these symptoms are again renewed upon taking food, and relief is again obtained by vomiting. The pulse is often, though not always, quick; its quickness appearing to depend upon a tremulous, or nervous, and not upon a vascular excitement; there is an extremely feeble state of the pulse, with a very considerable depression of nervous power: there is an anxious appearance of the countenance, but not so quick an expression of anxiety as in the acute obstructions, but rather a low melancholy, the patient often sighing, and complaining of a great sense of sinking; there is no extreme restlessness, or expression of impatience; the constipation is complete, and determined. This form of obstruction scarcely excites, even in the medical attendant, any serious apprehensions in the first instance, unless the true cause is suspected. It exhibits no glaring signs of an acute and highly dangerous disorder The abdomen has seldom any

marked tenderness, or tension. Around the spot or part which is chiefly referred to as the seat of pain, some degree of tenderness is felt upon pressure. Eructations and flatulence prevail. Vomiting is constant after taking food. The symptoms though slowly, yet gradually get worse, relief being rarely obtained from any measures. Purgatives invariably increase the vomiting, the matter of which, after some few days, has the appearance of fæces; at length pure fæces are ejected. As the disease goes on, the sense of sinking increases, with frequent faintings, and hiccup. The sufferers often express themselves as feeling that they are dying, the pulse becomes gradually imperceptible, the breathing laborious, and in this manner death closes the scene.

Obstructions from adhesion, are not always so distinct in their character from acute obstruction, as in the sketch which I have just drawn; the symptoms are often more severe, and more acute; but I believe they are always some degrees less so, than in cases of strangulation; and although the question whether there is strangulation or obstruction, cannot always be positively determined, yet it may in

general be pretty correctly surmised. The distinction however, is of no importance; the questions positively necessary to be determined are, whether the obstruction is mechanical? and, what is its situation? These points being ascertained, the distinction between obstructions from adhesion, and from strangulation, is not required.

I have extracted the following case from Sir Astley Cooper's work, as I consider it a clear description of the symptoms which are produced by a simply obstructed intestine, as distinct from those which are caused by a state of strangulation. It resembles very closely in the degree and the progress of the symptoms, the cases which I met with of Obstructed Hernia.

"On the 20th of April, 1811, a gentleman in the twenty-sixth year of his age, very slender in his form, and of great delicacy of constitution, was seized in the middle of the night, after an unusually hearty supper, with violent pains in the stomach and bowels, accompanied by nausea and cramp-like sensations in the calves of his legs. He was first visited about

four hours after the commencement of the symptoms."

"At this time he was vomiting largely his undigested supper of radishes; but the pains in his body and legs were so much abated, that he considered his complaint as an ordinary fit of indigestion, and apologized to his medical man for the early visit he had occasioned. In the course of the preceding hour, the bowels had been twice purged. The pulse was small and quick, but soft. The tongue thinly covered by a whitish mucus; the temperature of the skin rather less than natural. The belly was in no part of it either hard or painful to the touch; but sensations of a very peculiar kind, were referred to the region of the navel, and the countenance was marked by an expression of anxiety, which the degree at least in which the symptoms existed did not explain. Rigid abstinence from stimulants of every kind was enjoined; panada and thin broths were directed, and a solution of sulphate of magnesia in mint water, with five drops of laudanum were ordered to be taken every three hours. At noon time he was better; the sickness had ceased; the pulse scarcely deviated from its natural

condition; and in the evening, another stool had much relieved the singular feelings at the umbilicus. A pill, containing two grains of calomel, with half a grain of opium, was given at bed time."

"Twenty-first, nine o'clock, A. M. Slept about four hours during the earlier part of the night, and passed the remainder of it tranquilly. This morning he loathes food, but is free from pain. The pulse is 80, small and quick, the usual character of this gentleman's circulation; the tongue is slightly furred; the skin temperate and dewy. At two o'clock in the afternoon, he is more unwell; he has frequent eructations with retchings, and vomiting occasionally the bland fluids he has taken mixed with bile; the pulse is 90. He says he has no positive pain, but complains of the same kind of sensations about the navel that have been already noticed, and his spirits are much cast down. There is neither tension nor tenderness of the belly, except at the umbilicus, around which part, to the extent of about a hand's breadth, a slight degree of pressure gives pain, and produces an immediate desire to vomit. The parietes of the abdomen are carefully examined; but they

present not, either in the usual or more uncommon seats of hernia, any apparent tumour. He was let blood to the amount of fourteen ounces, and eight leeches were applied upon the umbilical region; pills, with small doses of calomel and opium, and a solution of sulphate of magnesia, were given every two hours. Of appetite there is none; and for the thirst which is troublesome, he uses barley-water and similar diluents. At nine in the evening, he was easier; but he vomited more frequently, and had passed no stool. A clyster was injected, which returned in the space of two hours, mixed with a small quantity of feculent matter. The belly was fomented, and the same medicines were continued."

"Twenty-second, eight o'clock, A. M. After a sleepless but not unquiet night, appearances are much as yesterday evening. The vomiting continues, and there has been no stool; the pulse is near 100, small and weak; the uneasiness at the navel somewhat abated, and the same degree of pressure upon this part, which yesterday gave pain, is this morning scarcely perceived. Upon every other part of the abdomen moderate pressure produces no sensations; the

tongue, however, is more thickly furred, and the skin is hotter. There is great thirst, with frequent eructations, and an affecting expression of anxiety in the face. The clyster was repeated, the fomentations were continued; and effervescing draughts with small doses of laudanum ordered to be taken every two hours. At four o'clock, P. M. the constipation continues; the clyster returning unaltered, after having been retained about two hours. The vomiting is now frequent; the thirst more urgent; leeches again applied; the clyster repeated; the fomentations and internal remedies continued."

"Twenty-third, eight o'clock, A. M. A very restless night has been passed; the vomiting is almost incessant, aud there has been no discharge from the bowels. The pain at the navel is much as yesterday afternoon; the thirst very urgent; the pulse 120 and weak. At noon it was determined in consultation to take twelve ounces of blood from the arm, and to apply a large blistering plaister to the abdomen; the medicines of yesterday, with the general treatment adopted at the commencement of the illness, were continued. At ten o'clock in the

evening, the symptoms are unabated; the bowels are immoveable; and the patient is evidently weaker than in the morning. There is scarcely any pain, neither is there soreness nor hardness of the belly. The blood drawn at noon-time, exhibits none of the signs of increased arterial action."

"Twenty-fourth, six o'clock, A.M. Has passed a dreadful night; there is indeed no pain, but the vomiting is incessant, every thing being rejected with a convulsive effort, the instant it reaches the stomach; the constipation is complete; the thirst insatiable; the tongue has lost the greater part of its cuticular covering, and is become exquisitely sore. The pulse is too rapid to be counted, and a tormenting hiccough is super-added to the other miseries of the patient, the powers of whose constitution, at all times weakly and ill calculated to sustain a shock like this, now seem to be nearly exhausted; yet amidst all these causes of anguish and irritation, the intellect remains unclouded, the habitual serenity of the temper is unbroken; the anxious character of the countenance has settled into a soft and tranquil air of melancholy, giving to a physiognomy naturally very

interesting, an expression that is perfectly affecting. At ten in the forenoon, the vomiting became distinctly feculent: in three or four hours more the exhaustion of the vital powers seemed almost complete. The pulse is scarcely to be felt; the extremities are losing their heat, and the skin is universally covered by a cold and clammy sweat. Later in the evening the vomiting and hiccough ceased; and at three o'clock in the morning of the 25th, the unfortunate subject of this observation died."

"The body was opened thirty hours after death. On exposing the cavity of the abdomen, which was in no degree tumid, the peritoneum of the parietes was attentively examined but *it retained its natural hue and lustre, and did not appear to have undergone any change.* The stomach was healthy, and contained a small quantity of air and fluid matter. The small intestines were entirely concealed by the omentum, which, loaded with blood, was spread out into a broad sheet, and tied down by innumerable bands to the whole of the anterior half of the brim of the pelvis, from the iliac extremity of the branch of the os pubis of one side to the same part of the same bone of the other side.

These adhesions, indeed, were continuous along the whole extent of the lower edge of the omentum; and seemed, by their colour and the firmness of their texture, to have been of long standing. On dividing the omentum, the small intestines were exposed to view, lying nearly in their usual position, *and presenting neither upon their peritoneal coat, nor in the interspaces of their convolutions any of the usual results of inflammation.* This observation however, is only applicable to the duodenum and jejunum, and to the upper portions of the ileum; for, proceeding to trace the remainder of the canal, a mass of bowel, greatly distended with some fluid matters, and in a state of inflammation, was perceived lying nearly in the centre of the umbilical region, *and in the situation to which the peculiar sensations of the patient were referred.* This proved to be a portion of ileon in a state of strangulation, occasioned by a membranous band, which attached at one of its extremities to a portion of the mesentery appertaining to the ileon, first advanced in front of and directly across that bowel, then suddenly turning round in close contact with it, proceeded backwards, and a little upwards towards the left hypochondrium,

whence appearing again in front, and crossing another piece of the gut, extended obliquely downwards towards the right hip, and was firmly attached along with a process of omentum, to which it was for some little extent adherent, to the inner edge of the margin of the pelvis at the point of union of the os pubis with the os ilium. This band varies in thickness in the course of its progress around the intestine, but it is uniformly dense and firm in its texture; and although it no where adheres to the bowel, (for when this was emptied of its contents it might easily be withdrawn from the strangulating chord,) yet by the course which it takes, and the manner in which it embraces the canal, it has produced a curious variety of that species of hernia, which the greatest of living writers on that most interesting subject has denominated "hernia within the cavity of the abdomen." No other diseased appearances were observed. No other cavity was inspected."

The above case presents a very accurate and characteristic description of the symptoms which are produced by a simple mechanical obstruction of the bowels. The general mildness of the symptoms, and the very trifling de-

gree of pain which was produced, the almost total absence of tension and tenderness, except to the extent of about a hand's breadth, which proved to be the seat of the obstruction; the constant rejection of every thing taken, with the *peculiar anxiety or melancholy*, together with feculent vomiting, show very clearly a case of sub-acute mechanical obstruction. The appearances after death also clearly agree with what I have observed. The inflammation appears to have been almost wholly confined to that portion of the intestinal tube, which was the seat of the obstruction. The peritoneum, and the other small intestines, presented none "of the usual results of inflammation."

Mr. Dalrymple, by whom the above case was transmitted to Sir Astley, has described it as a case of strangulation: but the degree and order of the symptoms most clearly denote, that a state, not of strangulation, but of obstruction, was produced by the adherent membranous band; and the bowel it appears, was by no means tightly embraced, but could be easily withdrawn from its situation, when emptied. The patient died earlier than is usual in cases of sub-acute obstruction; but that is accounted

for, from the extreme delicacy and unusually weak state of his constitution at all times, which rendered him unable to contend long with the depressing effects of this disease.

Chronic obstructions of the bowels, are generally caused by a contraction of the calibre of the larger bowels, forming a stricture in the colon or rectum; these obstructions are rarely total, a difficulty in evacuating the bowels is for some time experienced, motions extremely small in their dimensions, with a perpetually returning inclination to evacuate, accompanied with mucous discharges, mixed frequently with blood or matter, indicate the nature of the affection. Bougies, and mechanical contrivances to dilate the strictured part, are the means of relief used in these cases.

Chronic strictures of the large intestines, may, and I believe do occasionally give rise to symptoms of acute, or sub-acute ileus. Substances swallowed, or hardened fæces collecting above the strictured part, are the cause. Tenesmus would be a prominent symptom in these cases. Copious injections of warm water, with the introduction, if possible, of a mecha-

nical contrivance above the strictured part, to break down the opposing substance, would be the chief means to be relied on for relief. The previous history of these cases, will distinguish them from other causes of mechanical obstruction.

These various obstructions are to be distinguished from Enteritis, by their apparently local origin, and prominently marked symptoms of obstruction.

The vomiting of fæcal matter is to be taken among the surest indications of mechanical obstruction. Cases have been recorded, where there has been stercoraceous vomiting, unaccompanied by mechanical obstruction; in proof of which, instances have been adduced, where glysters have been ejected from the mouth. I do not deny the occurrence of such cases, but I believe them to be extremely rare. It is not likely that these rare cases, would come to be considered as among those for which an operation might be ventured on: their general outline of features would necessarily be different. From what I can collect from a record of some of these cases, they do not appear to possess

that fixed character of pain, and obstruction, which is so marked in ileus, arising from mechanical causes. The vomiting and revulsive action of the bowels, appear to be of a spasmodic, or convulsive kind. Relief is usually obtained, or the disease has subsided, before the time at which, in mechanical obstructions, an operation would be thought of. Stercoraceous vomiting, at one time, was explained solely upon the principle of a reversed peristaltic movement; and it was from this reason, that quicksilver was so universally recommended to be given, in what was then described as the "iliac passion;" and certainly, in such a disease, its use would be very proper; but, if it had been known that stercoraceous vomiting was, with very few exceptions, the result of a mechanical obstruction, it is clear that this remedy would not have been proposed.

Some of the acute forms of mechanical obstruction, may, and I believe often do commence, as a sub-acute disease; acquiring gradually the more acute character. Intro-susception, and obstructions from hardened fæces, or other substances, are those kinds which make their attacks in this manner.

OF THE SIGNS DENOTING THE SITUATION OF AN INTERNAL MECHANICAL OBSTRUCTION.

When a total obstruction of the bowels has taken place, and when the symptoms have pretty clearly denoted that the cause is mechanical; and when also the particular nature of that cause is fairly distinguished, and an operation is contemplated; the next, and most important question to determine, is the precise situation of the particular obstruction.

If the obstruction is of that kind which I have described as the acute, there will be great difficulty in ascertaining the precise situation of the part affected. If internal strangulation is the cause, doubts must always prevail upon this question; because it is well known, that in strangulated hernia, the most severe pain is not felt at the hernia, but in the epigastric region; a dragging sensation from the stomach being mostly complained of: still, if the patient be asked where else he feels pain, he will refer to the hernia invariably; and I should think in

cases of internal strangulation, if the patient were asked to point out any other situation, or origin of pain, besides the stomach, that he would very correctly refer to the part immediately above the strangulation.

But in all cases where a question of this nature is to be resolved, every judicious practitioner will avail himself of every circumstance and symptom, which may assist in determining it; because the more carefully he has examined these cases, and reflected upon them, the more correct in general will be his conclusions, and the more successful his practice. The sensations of the patient, and the seat of pain must be minutely examined. The place where pain was first felt, and where it is most constantly fixed, must also be carefully ascertained. When there is tenderness of the abdomen, the part (or focus) where it commenced, must be found out. All these things, when ascertained, will amount, not to a positive conclusion, but certainly to very strong presumptive evidence of the particular seat of mischief; and this presumptive evidence will afford sufficient data to justify any attempts to relieve by an operation, these otherwise desperate cases.

If the acute obstruction is produced by an intro-susception, the left iliac region will in most cases be found to be the seat of mischief; and a swelling or tumour, will be discovered there; or at least some degree of fulness or hardness may generally be detected. The large intestine, and more particularly the descending portion of the colon, is that which usually contains the intruded bowels. The left iliac region, therefore, is the part to which the examination must be most particularly directed, in cases of intro-susception; the seat and direction of the pain must also be minutely attended to, in these cases, as well as in strangulation; and every symptom must be separately and carefully examined. Dr. Dance of the Hotel Dieu, describes a flattening-in of the abdomen, at the place usually occupied by the cæcum, and ascending colon; this appearance therefore must not be overlooked in our collection of evidence.

If the obstruction be that which I have described as sub-acute, the patient will be able very easily to point out the part where the pain seems to have originated, and where it is most constantly felt, and also the situation of

his previous colics; and upon examining such part, by making pressure upon it, a slight soreness or tenderness, will be very conspicuous. This, without doubt, will be found to be the seat of the obstruction. Patients do not usually refer to any particular part, or seat of pain, in these cases, unless enquired of; but when asked, they never fail, as far as I have observed, in describing the part or region, where the obstruction is seated.

OF THE TREATMENT IN THE EARLY STAGES OF MECHANICAL OBSTRUCTION OF THE BOWELS.

ALTHOUGH the mechanical nature of internal obstructions of the bowels may, even in the early stages, be often presumed; yet, as nothing can then be positively determined, the treatment must be confined to a medical view of the case: and, even could the existence of a mechanical obstruction be positively determined, still it is the immediate and urgent danger of the case only, together with the certainty that relief can be obtained by no other means, that should induce us to undertake so formidable an operation.

In the acute forms of mechanical obstruction, the treatment will be chiefly directed to control, or prevent inflammatory symptoms; and to overcome, if possible, the obstruction. Bleeding is the remedy which will be the most relied on for the former of these purposes; but a knowledge of the mechanical nature of this disease will, I should think, prevent a practi-

tioner from carrying even this necessary measure, to the great, and I should say, dangerous extent to which it is sometimes practised. Bleeding should be regulated, so as to control, if possible, inflammatory action, rendering it as little destructive to the parts as possible; but it should never be carried to such an extent, as to break down the constitutional and restorative powers; for it must be remembered that bleeding cannot cure this disease, and that in all probability, recourse must be had to an operation, which it requires considerable constitutional vigour to sustain, and considerable powers of restoration to render successful.

I should wish it to be understood, that I am not condemning, or entering my protest against a free use of the lancet in inflammatory affections. I am fully sensible of the great advantage to be gained by an active, and early depletion; but when such means have been in the first instance, well employed in these cases, without any relief; of what use is it, to continue recklessly, and in spite of its inefficiency, to drain away the life blood, and sole remaining power of the already sinking patient? I have been induced to make these remarks, beeause

I am aware, that there is in the minds of medical men generally, a disposition to carry depletion to extremities in some cases; they appear to look upon bleeding, as a measure of positive cure in inflammations. I do not believe it possesses any such power. I have seen, and so must others, inflammations going on to the destruction of the patient, in defiance of the most extreme, and the most determined venesections; and I have noticed, that patients who die of acute diseases, die much earlier where they have suffered those large depletions, than where the remedy has been used with more moderation. Repeated large bleedings, at the interval of only a few hours, are in my opinion extremely hazardous.

To remove the obstruction, and thus procure a passage for the fæces, is the end, and effect, to be particularly aimed at; and for this purpose, strong purgatives are usually given, and persevered in. From my experience in these cases I should say, that strong purgatives are not only useless, but generally hurtful. The administration of a purgative, is followed by its almost instant, and painful rejection; but as a removal of the obstruction is looked to as the

most natural, and certain mode of relief, it is usual to persevere in these means. I do not absolutely proscribe the use of aperients, but drastic purgatives I cannot but condemn; they increase the pain and sickness, and by increasing the movements, increase the inflammation of the part affected. If aperients are administered, they should be of that nature which will rather liquefy the contents, than increase the action of the bowels. The neutral purging salts, are among the most proper of this class of remedies. Calomel may be given, but I prefer combining it with opium, with a view of moderating the inflammation. The most rational, and the most likely way of removing the obstruction, if it is removeable, is by copious injections per anum; these, if the bowels are strangulated, may be the means of withdrawing the part from its strangulated position, by distending the portion below it. Quicksilver was formerly recommended, and used for obstructions of the bowels, but it is now I believe generally condemned, and wisely; for the principle of its action is such, as to be more likely to increase, than to remove the disease. Intro-susception will require the same treatment as internal strangulation, and there

is a greater chance of its succeeding. Purgatives must be scrupulously avoided; whatever is taken, must be of a fluid nature. Bleeding and warm bathing, should be had recourse to, but the great reliance will be on copious injections per anum. The forcible injection of air by means of bellows through the rectum, has been recommended very strongly by, as I believe, a Mr. Blacklock of Dumfries, and I should think upon a principle of distention, it would be preferable to fluids. Quicksilver given by the mouth, is here, as in strangulation, totally unallowable; but I have an opinion, that quicksilver injected per anum, under such a position of the body as will allow of its ready gravitation, would prove the most effectual, as it appears to me the most probable remedy; and should any well marked case of intro-susception come under my care in future, I shall not fail to make trial of it. I should place the patient upon his knees and hands, with the head and upper parts depending, and in this manner perform the injection. I should expect that the quicksilver in its reversed passage along the intestines, would forcibly weigh upon and carry the involved portion of intestine along with it, and thus reduce it to its natural situation; preventing the necessity of having re-

course to an operation, which is at all tmes unfavorable, and is justifiable only as a desperate resource.

In the sub-acute forms of mechanical obstructions, namely, those arising from adhesions, some little variation in the treatment is required. Moderate bleedings may be resorted to in the first instance, but copious venesections are not generally required, because in these cases there is little or no inflammatory action to subdue; the symptoms are almost entirely those of depression, and so much so, that a medical attendant would in any other disorder, with such symptoms, direct stimulants to be taken. Aperients are also in these cases to be used sparingly, as they invariably give pain, and are thrown off the stomach. Local bleedings may be made use of, such as the application of a few leeches over the part where the obstruction is suspected; the inflammation in these cases being usually local and circumscribed. Opiates occasionally are proper, giving ease to the patient, procuring intervals of rest, and allaying irritability. Fomentations to the abdomen, or warm bathing, may give some temporary relief. Injections per anum may be tried, but the prospect of their relieving is much less, than in

cases of introsusception, or of strangulation; because these are the result of an alteration in the position of the intestines, which it is possible may be removed; but the sub acute obstruction is owing to an unfavourable affixture of them, which cannot be expected to be separated by such slight mechanical means.

In general, this state of obstruction continues slowly, but progressively increasing; flatulence, with fetid eructations, and eventually stercoraceous vomitings occur; and this, in my opinion, as I have before observed, is the surest indication of mechanical obstruction.

The time during which these forms of obstruction are in progress, before any highly dangerous appearances are observed, allows the mind to meditate and become resolved upon its ulterior measures; and on this account, and from there being little or no general inflammation, these cases will always be the most favourable for attempts at relief by an operation.

In chronic strictures of the large intestines, which accidentally give rise to ileus, I have often thought, and I put it merely as a question,

whether, if all other means of removing or relieving the obstruction should fail, a surgeon would not be justified in performing an operation, to cut out a cylindrical portion of the intestine, containing the stricture, and bring the divided ends of the cut intestine together by sutures, and thus preserve the continuity and calibre of the canal? Instances have occurred in wounds of the abdomen, and in severe cases of intro-susception, of entire cylindrical portions of intestine being discharged, and the patients getting well. Experiments upon animals have frequently been made, by which it is proved that the intestines may be divided, and portions of them removed, without occasioning death or any bad symptoms.

In Baron Dupuytren's memoir, a remarkable case is related of a maniac, who recovered after having himself cut away half a foot of small intestine. If recovery could take place under such extraordinary circumstances, surely we might rationally expect it after an operation performed with great care and judgment. An operation of this nature is not less feasible than many others which are occasionally resorted to for the relief of otherwise fatal

diseases. Care should be taken before such an operation is ventured upon, to ascertain whether the stricture is, or is not, of a malignant nature, or whether it is connected with other important diseases of the bowels, or interior of the body.

I am inclined to believe, that chronic strictures of the larger bowels, are not often of a malignant nature. A patient of mine died lately from this disease, having laboured under it for several years. At the time she first consulted me, the disease was of considerable standing. She had previously taken other opinions, but from her vague manner of stating her case, its true nature had not been discovered. The discharge which she had of mucus and matter from the rectum, she had so described, as to lead to the supposition that it was a vaginal, or uterine disorder. One medical man, from not making a minute enquiry, gave a very ludicrous and illiberal opinion upon her case. After hearing her state (as she usually did) in a very indefinite manner, her symptoms, among which, she mentioned a discharge, he conceiving it to be from the vagina, and thinking it a good opportunity to insinuate unfavor-

ably against another, immediately stated her complaint to be a disease of the uterus, owing to a bad labour; and without waiting for her reply, asked her, who it was that delivered her. "Nobody at all," was her immediate answer, "for I have never had a child in my life, and never was in the family way." She was in this way completely satisfied, or rather sickened with his opinion, and without taking either his advice or his medicine, applied to me. I ascertained by enquiries that the discharge was from the rectum, that there was a continued necessity for evacuation, and that the fæces discharged were no larger than narrow tape. This was sufficient to indicate the nature of her complaint. I proposed, and obtained an examination, when I discovered at the utmost point to which my finger would reach, a stricture, beyond which, the point of my smallest finger would scarcely have passed. The patient's health was in all other respects good. She had, since she had laboured under this stricture, become corpulent, her abdomen being particularly large. I conjectured that the bowels above the seat of the stricture, had extended themselves from the accumulation of fæces into pouches, which occasioned the

enlargement of the abdomen. I represented to her in the strongest terms, the present curable nature of her disease, if attended to, and its positively fatal tendency, if neglected. I urged upon her the necessity of making use of mechanical contrivances; but I urged it in vain. She would have taken any thing in the form of medicine, but she positively rejected every thing in the shape of mechanical means. After explaining to her the real nature of her disease, and telling her the frequent disgusting termination of this disorder, in a communication of the rectum, with the vagina, by means of ulceration, without its having the effect of disposing her to submit to the only efficient remedies, I resigned her case altogether. After the lapse of two or three years, and after she had been applying to various medical men, I was again particularly requested to see her. I then found that a recto-vaginal communication existed. I also found two or three fistulous openings about the nates, which discharged flatus, and small quantities of fæcal matter. Her ancles were œdematous, her face and body were swollen from serous accumulations in the cellular structure; her constitution was sinking, and her general health fast declining from

the effects of this disease. The dropsical disorder increased upon her, and after some little time she died. I had no opportunity of inspecting her body.

The above case shews, that the long continuance of a partial obstruction in the intestinal canal, will occasion such changes of parts, and alterations of structure, as to lead to a derangement of the health, and destruction of life, without the disease in itself being of a malignant or fatal tendency. I believe most medical men upon seeing this case towards the conclusion, would have come to the opinion that the stricture was of a malignant nature; but having seen her before any derangement of the health had occurred, although the stricture had then existed for years, I am of opinion that the stricture destroyed her from its mechanical, and not from its malignant qualities; and I therefore believe, that mechanical contrivances may frequently be used, so as to prevent any fatal effects, if not absolutely to cure the disease. The great object will be, to prevent fæcal accumulations. It is very plain, that the common rectum bougies cannot fulfil this intention. We may pass one beyond the stric-

tured part, and thus stretch it; but upon its being withdrawn the part will collapse again: to do good, the bougie must be worn almost constantly. This, I imagine, few people would submit to sufficiently long to render it of any material service. The frequent occasion for its removal, in order to evacuate the bowels, with the inconvenience and pain of repassing it, would weary out the resolution of most patients. I intended to have adopted, in the case I have just related, the plan of a hollow tube, instead of a solid bougie; but my patient would not submit I imagined that a hollow tube passed beyond the seat of stricture would allow the passage of the fæces through it, which might be facilitated by injections thrown up, and by the patient's avoiding in her diet, all those things which might produce solid evacuations. After this tube had been worn some time, I should have withdrawn it, and introduced another of increased diameter; and in this manner, I believe, permanent relief might have been given.

CONSIDERATIONS AND DIRECTIONS RESPECTING AN OPERATION FOR THE RELIEF OF MECHANICAL OBSTRUCTIONS.

BEFORE an operation is in these cases ever ventured upon, a most careful observation and examination of every individual symptom must be made, to ensure as correct a diagnosis as possible. It is not positively necessary that every variety of obstruction should be accurately distinguished; it is in general sufficient to know that a mechanical obstruction is present, and to obtain some probable indications of its particular situation.

It would be too much to expect that success could attend any large proportion of cases of mechanical obstruction, for which an operation is performed. The desperate nature of the case which makes such attempts justifiable; and the doubtful nature of the operation, where much is necessarily involved in obscurity; combined with the peculiarly dangerous tendency of abdominal inflammations, render the prospect

in most cases unfavorable; but success only occasionally attending, is sufficient to justify the practice.

As there is a very wide difference in these cases, some affording the fairest hope of success from an operation, while in others, every attempt of the kind is plainly perceived to be useless; a surgeon should form some estimate or calculation, of his chances of saving his patient. If abdominal inflammation is extremely severe, or has existed some days, so that he may almost positively infer, that great disorganization of parts is produced, an operation would without doubt be useless. The nearer the symptoms correspond to those which I have described as denoting sub-acute obstruction, the greater will be the chance of relief from an operation; and vice-versa.

Stercoraceous vomiting, as I have before stated, may be considered as the most conclusive sign of mechanical obstruction; and where this symptom is present, little doubt of the case need be entertained. The rules which I have already laid down, will I think, enable a

practitioner to infer somewhat correctly, what is the probable situation of the obstruction.

In performing the operation, the incision into the abdomen, should be made through the linea alba, or linea semilunaris, in a situation near to the part where the obstruction is supposed to be; the opening may afterwards be enlarged, as the occasion may require, without fear of wounding the epigastric artery; the hand must then be introduced into the abdomen, and the intestines, at the part where the disease is suspected to be, must be drawn out. This is absolutely necessary, for without seeing the part, it cannot be remedied. When the intestines are thus brought into view, the part where the obstruction is seated, will be marked by a greater discolouration, or appearance of inflammation, than any other; if there has been stercoraceous vomiting previously, it is not probable that there will be found any accumulation of the contents of the bowels above the obstruction; but if a vomiting of fæces has not prevailed, or but in a slight degree, some accumulation will probably be found. The particular morbid condition, or cause of the obstruc-

tion, is now to be ascertained. It is unnecessary to give any directions as to the course to be pursued to relieve a state of adhesion, of strangulation, or of intro-susception ; the judgment and presence of mind of the operator, will enable him to do what is requisite, and will also guide him through any particular difficulties he may meet with; for in cases which must admit of such endless variations, no rule, or exact line of proceeding, can be pointed out.

It may happen that, from a state of adhesion, or from some other cause, the intestines cannot be drawn out of the body, so as to expose the obstructed part; and an operator may probably, in such a case, be inclined to resign his attempt, and consider all further proceedings as useless. Although in such a state of parts, the chance of success would be indeed very slight, yet having proceeded thus far, I should not be willing to abandon the case without doing something, if possible, in the way of relief. I would even enlarge the opening, so as to expose the intestines as they lay in the abdomen, and find out, if possible, the confined portion. However desperate such a proceeding may appear, I should consider it

preferable to a total abandonment of the case, because it is affording a possible chance.

I should expect no immediately dangerous effects from opening the abdominal cavity. Dr. Blundell has stated, that he has never in his experiments upon the rabbit, observed any marked collapse when the peritoneum was laid open, although in full expectation of it. The great danger to be apprehended is from inflammation, and the surgeon of course will do all in his power to guard against it.

Bleeding to some extent will probably be necessary in most cases, but great care is required in the use of this measure. I should not look to it as the only, or even the chief means. Bleeding, I should presume, has already in these cases been carried to some extent, and its further use must in a great degree be proportionate to the existing necessity, and to the remaining power. My chief reliance would be on getting the bowels to resume their action and function. The more easily and quickly these parts return to their natural duties, the less likely they are to become inflamed: the evacuation of the bowels,

and a free secretion from their interior, is also most likely to divert, or carry away, any impending inflammation of neighbouring structures, as of the peritoneum, &c. After the bowels had been fully and freely opened, I should give frequent doses of calomel and opium, to allay irritation, and with a view of subduing any lurking, or preventing any threatening inflammation. For some hours after an operation of this kind, food should be almost wholly abstained from, and even then liquid diet in small quantities only, should be allowed for some days.

As I have throughout this work, advocated a bolder system of surgical relief in intestinal obstructions, than is at present practised, or recommended by the profession generally, I may be accused of encouraging an experimental and hazardous method of treating disease; but those who duly weigh, and consider what I have stated, will acquit me of any such intention. I am not recommending or substituting a new method of treating these cases, for one already adopted, but rather proposing a probably successful practice, where none previously existed. Much that I have offered to the notice of the profession, is to be taken in the nature

of a suggestion, or as prompting to a trial, in cases otherwise fatal; in fact, I am rather inculcating the principle, that where it is possible to succeed, it is weakness to despair. My design is by no means to engender a spirit of rashness, or to encourage unthinking experiment. I have, in the midst of encouragement endeavoured to pourtray the difficulties and hazard of the attempt, by shewing the small degree of success which can be expected; and I think the profession are much more likely to shrink from, than unnecessarily to encounter the difficulties which must present themselves, in operations for the relief of internal mechanical obstructions. But though success from an operation in these cases, can only be occasional; yet such will be sufficient to inspire hope, and to justify the undertaking; and further experience will render the diagnosis more certain, and the degree of success better known. If I succeed in persuading my professional brethren to attempt the relief of these cases by an operation, and success should follow, in only a few instances, I shall have contributed my mite to the great cause of relieving suffering, and saving life; as well as to the advancement and improvement of the profession to which I belong.

APPENDIX,

CONTAINING A BRIEF STATEMENT OF THE CAUSE OF THE DIFFERENCE IN SIZE OF THE MALE AND FEMALE BLADDER.

ANATOMISTS and Physiologists have long known the fact that the human female bladder is larger than that of the male; and have accounted for it, by supposing that motives of delicacy, and the habits of society, not allowing females the same frequent opportunities of relieving themselves as are possessed by the other sex, the longer retention of urine causes the bladder to increase in size. This was the doctrine promulgated by the teachers of anatomy and midwifery, at the various schools of instruction in those branches of medical science, during the time I was a student and attendant upon their lectures; and as far as I can learn, this is the opinion still given by teachers of medical

science, whenever they have occasion to advert to the subject; and so plausible does the explanation appear, and so plainly does it seem to account for the fact, that the accuracy of this opinion seems never to have been questioned, or even enquired into.

The man who should attempt to question, or refute the above opinion, by any form of argument or ingenious reasoning, would be considered as frivolous or trifling, so completely self-evident does it appear; yet the mere mention of a simple, and easily ascertained fact, is sufficient to show its erroneous nature, and to prove how completely speculation may mislead the mind, even under the most plausible impressions or appearances.

What will physiologists say in support of the above opinion, when they shall learn, that the bladder of the cow, of the ewe, of the sow, and as far as I have investigated, of every other female animal of the class mammalia is, under certain circumstances, larger than that of the male? Surely they will look for some other cause than the one usually assigned for this difference. Motives of delicacy cannot, I

presume, be a prevailing cause with such animals as the cow and the sow!

That the above is a fact, every person may easily ascertain for himself; and, having so ascertained it, he must necessarily change his opinion.

The difference, or increase of size in the female bladder, over that of the male, is not an original construction or formation, but is dependent upon, or occasioned by the state of pregnancy; for in those animals who have never produced young, the bladder is not larger, in comparison, than in the male of their species. Animals who have produced many successive offspring, have usually a very large bladder, so that this viscus appears to increase with each successive produce.

There is generally a very wide difference in the bladder of those female animals which have been spayed, as compared with those which have produced young. The bladder is not only larger in the latter, but is thinner in its coats, which is an additional proof that it is a subsequent dilatation, and not an original formation.

The bladder of the spayed female animal, and that of the male, resemble each other; being of smaller size, and their coats being more dense and strong than those of the maternal animal.

The question which arises from the above fact, is, How does the bladder become enlarged as a consequence of pregnancy? This question is not easily answered; in fact, it cannot be positively determined. Some persons may suppose, that the pressure of the enlarged uterus upon the bladder, may occasion an accumulation of its contents, and so distend its coats; but retention of urine, although occasionally a disease of pregnancy, is not invariably so; and does not, in my opinion, sufficiently account for that enlargement of the bladder, which appears to be an invariable consequence of pregnancy. Pregnancy may possibly occasion a more full developement, or increased growth of the viscera of the pelvis, from the increased supply, or determination of blood which it produces to those parts; but in a question where so much uncertainty prevails, it is scarcely worth while to hazard an opinion; particularly as the subject is one of no practical

consequence, and I have only introduced it for the purpose of correcting a physiological error.

The above circumstance shows the advantage of confirming by analogy any opinion which we may entertain; and of referring to comparative anatomy and physiology for the truth or error of any particular doctrine; for it is clear that if a reference had ever been made to animals for a confirmation or otherwise of this particular doctrine, the above error of physiology would not have continued as it has done to the present period.

FINIS

PLUMMER AND BREWIS, PRINTERS, LOVE LANE, EASTCHEAP.

APPENDIX.

My readers will observe that, under the head of Obstrueted Hernia, I have included all those states of obstruetion from a hernia, which are not dependent on or eaused by, an *actual strangulation* of the ineluded intestine. Thus, any state of strieture which acts more by obstrueting than strangulating the intestine, I have considered ought to eome under my deseription of Obstrueted Hernia, instead of remaining under the incorreet definition of Slow or Chronie Strangulation, or ineareeration, or engouement; whieh terms only apply to a partieular state of eaeh separate obstruetion, and do not denote the real nature of the disorder. I have therefore, as regards these cases, done no more than separate them, and show their distinetion from eases of strangulation of the bowel; under whieh general head, they had till then been elassed, at least, by English writers. In this, however, I make no elaim to discovery. The important matter to the credit of which I lay claim, is the having pointed out to my profession the general prineiple, that obstruetions of the bowels within a hernia, or within the abdomen, may take place from simple adhesion of the intestine to the sac or eontiguous

structures, by which it is constrained or fixed in a position unfavorable to its peristaltic action, and the transmission of its contents; and that this may occur, independently of any constriction, incarceration, or engouement.

I have premised thus much, as it will furnish an answer to some objections advanced by Reviewers, without the necessity of my giving any extended reply.

In the Medical Gazette of May 2nd, 1829, there is a review of my Treatise on Hernia, of which I have just reason to complain. The reviewer has attempted to refute me by misrepresentation instead of argument; by asserting as my opinion, that which I never entertained, and then gravely contending against that which has no reality, but in his own misunderstanding or misrepresentation. But as unfair dealing will oftentimes defeat itself, so from the pages of this very journal, I am able to select the most satisfactory refutations of the Reviewer's statements, thereby illustrating most completely, the Scripture adage, "Out of thine own mouth, will I judge thee."

In the first place, the Reviewer disputes my claim to any originality, by asserting that "the author is mistaken in supposing that the circumstances to which he alludes, are not abundantly known to Operative Surgeons;" and he then refers his readers to a Clinical Lecture by Mr. Charles Bell, at page 104, of the second volume of the Medical Gazette. I expected to have found it taught in that Lecture, that a hernia could be fatally obstructed without any stricture, primarily or secondarily, upon the bowel; but instead of this, I found a drawing given with the Lecture, to shew in what way the *stricture* is produced. All that Mr. Bell attempts to describe in his Lecture is, that the stricture in incarcerated hernia, is produced by the contents of the hernia enlarging from accumulation of matter within it, until the diameter of

the gut is far greater than that of the neck of the sac. These are Mr. Bell's own words, and after describing incarceration, he says, "Strangulation is another stage, where the stricture is not only so tight upon the intestine as to prevent the passage of the contents of the bowels, but also to constringe the veins," &c. No allusion is made in the lecture to obstruction without any stricture, which the readers will have perceived is the very basis of this Treatise. To shew that "Operative Surgeons" have not known that a hernia, having no kind of constriction upon it, may yet require an operation, I need only quote, as I have done in my book, from Mr. Lawrence's last edition of his Treatise on Ruptures. At page 62 he says, "That the symptoms of strangulated hernia arise from the pressure of the stricture on the protruded parts, and that this cause is not only adequate to that effect, but indeed the only one that can be assigned, is too clear to admit of any doubt." If Mr. Lawrence, who is one of the "Operative Surgeons," had known that the symptoms of a strangulated hernia, differing only in degree, could be produced without any pressure of a stricture whatever, but simply from an adhesion of the bowel to the sac, interrupting its peristaltic movement, and obstructing its contents, would he have written the foregoing passage in his last edition? But the most complete refutation of the Reviewer, occurs in the pages of his own journal. In the very number preceding that in which is a review of my work, the following case was published, which proves most satisfactorily the truth of the principle I have advocated, namely, of adhesion being a cause of fatal obstruction, independent either of *stricture* or of *incarceration;* and *disproves* also the statement of the Reviewer, that the circumstances to which I allude, are "abundantly known to Operative Surgeons."

"OBSCURE CASE OF HERNIA.

To the Editor of the London Medical Gazette.

SIR,

THE following case, which was rendered doubly interesting by the obscurity which characterized it throughout, presented itself in a private patient of Mr. Vincent, whose good wishes towards your very serviceable Journal has induced him to authorize me (I having been present at the operation) to put you in possession of the principal facts.

I am your obedient Servant,
C. M. BURNETT.

House Surgeon's Apartments,
St. Bartholomew's Hospital.
April 7, 1829.

A robust and healthy-looking woman, fifty-six years of age, who had been in the habit of making such exertions as her trade, which was that of a grocer, required—had never been the subject of hernia, nor afflicted with any other complaint than a prolapse of the uterus, which she had had for many years, and which never gave her more trouble than the mere inconvenience which it produced. She had been a widow for many years. Although she had been accustomed to lift weights, still, from the nature of her complaint, these could not necessarily be very great; nor was she at all conscious of having made use of any force which could have accounted for the formation of a hernia.

On the 23d of March she directed Mr. Vincent's attention to an inflamed swelling, somewhat larger than a pigeon's egg, which took its seat rather upon than below

Poupart's ligament of the left side, and a little to the inner side of the external ring. It was moveable, and presented very much the character of an inflamed gland. But this superficial swelling, for so I may call it, seemed to lie immediately upon another, which was deeper seated, and consequently more obscurely felt; though, when pressed upon, it gave considerable resistance to the finger, was perfectly immoveable, and excessively painful on being touched. She had observed this swelling only the day before, since which she had not had any motion from the bowels, but had been in a constant state of sickness, accompanied by hiccup. The abdomen all over was tender on pressure, but at the lower part of the left side she complained of its giving her acute pain. The pulse was quick and strong. Mr. Vincent took away about fourteen ounces of blood from the arm, which afterwards became very much cupped and buffed. Mr. V. then ordered that she should take repeated doses of Epsom salts; but the stomach rejected every thing; in consequence of which, enemata were repeatedly administered, but without moving the bowels. She continued restless through the night, and on the following day (24th), at two o'clock, there did not appear to be any alteration in the symptoms. She had retained no food. On directing her to cough, no impetus was communicated to the part, while she at the same time voluntarily observed, that it gave her no pain.

Considering all the circumstances of the case—the excessive tenderness, the constant sickness, the hiccup, and the constipated state of the bowels—Mr. Vincent thought (and those gentlemen who were present agreed in his opinion) that it would be advisable not to defer the operation of cutting down upon the tumor. An incision was accordingly made, an inch and a half or two inches long,

commencing just below the external ring, and passing downwards and a little inwards upon the tumor. After the fat was divided, the first thing observed was an inflamed and enlarged gland, which seemed to block up the wound. This was divided, when another tumor came into view, corresponding to the one which had been felt beneath. The operator raised the gland, and cutting horizontally upon this last tumor, which was the size of the tip of the finger, expected by so doing to enter the sac of the hernia. The part had a black appearance, and looked like a sac in which the circulation had been obstructed by stricture above. The division of this, however, only exposed another covering beneath, to which it was very firmly adherent. Mr. V. now raised a portion of this last covering with the forceps, as he had done the former, and, making a similar horizontal cut, when about an ounce of a turbid yellow urinous-smelling fluid gushed out. He now thought he had opened the sac of the hernia, and, after having enlarged the aperture, introduced the point of the index finger, and felt for the strictured gut, but there was none to be found—the sac was quite empty. He desired the patient to cough, but no impetus was given by so doing to the tumor, and the sac appeared to have no connexion with the abdomen; but the opening under Poupart's ligament was plainly to be felt, and by passing a director upwards, in the direction of the sac, it was observed to enter the cavity of the abdomen.

The patient did not express herself relieved by the operation, though the sickness left her for a time, and as there was no intestine or omentum to reduce, the wound was immediately closed by a ligature and some pieces of strap, after which she was placed in bed. Fourteen ounces of blood were drawn from the arm, the pulse being sharp; she then felt faint, but slept for about four hours.

At the expiration of this time an injection was given, but it produced no effect, and she remained restless, though free from sickness.

25th.—The sickness had not returned, and she was now directed to take calomel and colocynth by the mouth; but after these had been repeated a few times, the sickness returned, without their producing any evacuation by the bowels. The blood which had been drawn yesterday was not cupped or buffed; but there was still the pain and tenderness of the abdomen, and the pulse was beating about 90. Several injections were now repeated, but to no purpose; and in the evening she brought up, by vomiting, a great quantity of matter which had the appearance, and she said tasted, of the injection.*

26th.—The night was disturbed by sickness, and she continued to bring up matter of the same character. Altogether she had vomited about three quarts of fœcal matter. The abdomen was more tender. Two large blisters were now placed on each side of the abdomen; she felt considerably relieved by them, but this relief was not permanent—nor, perhaps, depending entirely upon the blisters. Another injection was administered, which was the only one which seemed to be at all efficacious; it produced an evacuation of a quantity of hardened scybala, and the relief was great for the time.

27th.—The sickness had gone off, and she slept occasionally through the day. The pulse was the same in frequency, but rather smaller. As there had been no evacuation from the bowels, she was ordered to take three grains of calomel and twelve of jalap.

28th.—No evacuation from the bowels. The stomach could retain small quantities of farinaceous food, but she

* Noticed at page 210.

seemed lower, and her pulse was materially weaker. In the evening the sickness returned with greater violence; her anxiety was very great. An injection was given, which was returned without any thing. She was ordered some pills containing calomel and opium, but the night was passsed in increased restlessness and anxiety, and she died early the next morning.

The examination was conducted by Mr. Vincent, in the presence of one of the female relatives. On opening the cavity of the abdomen, neither the peritoneum nor intestines were, to appearance, at all inflamed.* Towards the lower portion of the ileum, in tracing it down, there was seen to be about an inch of its long diameter adherent to the neck of the sac, but only by about half an inch of the caliber of the intestine; which part was so firmly attached as to look as if it had been nipped. The inner coat about this part of the intestine was ulcerated, and there was a slight inflammation around; but the channel of the bowel was perfectly free, and its circumference opposite to the part which was nipped not at all inflamed."

The above case was copied into the London Medical and Surgical Journal, with the following observations prefixed. "In our last number, we gave a review of a very interesting work on hernia, by Mr. Stephens, and the present case, as our readers may observe, tends most materially to corroborate Mr. Stephens's views," &c.

In the London Medical and Physical Journal for May 1829, the Reviewer has contended against the originality of the principles I have advanced. The following passage occurs in the Review: "*Mr. Stephens says, that,*

* A common occurrence, and which will be more particularly noticed hereafter.

operations upon hernia are not considered necessary or justifiable by Surgeons of the present day, unless stran gulation has occurred. This statement is not correct. Strangulation is considered the most common, but not the only cause for operating." To answer the above, I need only quote the following remarks from the Edinburgh Medical and Surgical Journal, for July 1829, which occur as prefatory to a Review of my work. "*It has been generally, nay universally, taught by the best surgical authorities, that the sole cause of the fatal termination of hernia, consists in strangulation of the protruded bowel, and consequently, that if the strangulation is effectually relieved,—if the stricture is divided or relaxed, and the bowel replaced, the fatal termination of the disorder, so far as constriction or strangulation is concerned, is certainly averted.*" The above authorities are completely at variance in their statements, but the cause of their difference may be explained. In the passage quoted from my work by the London Medical and Physical Journal, it is evident that I used the term strangulation in the sense in which it had generally been used by surgical writers, namely, as implying a constriction; which the following passage, in continuation of that quoted above will prove—"I have, I flatter myself, distinctly proved, that an operation is frequently required for hernia, when no distinct strangulation exists, and where there is no *stricture* to be divided." The Reviewer however, has quoted partially, and contended against the correctness of the statement, upon the principle that an operation is required, when the stricture does not *actually strangulate* the bowel. The Edinburgh Medical and Surgical Journal, on the contrary, taking the term strangulation in the sense in which I had used it, as signifying any degree of constriction, has candidly

acknowledged, that it had been "universally taught by the best surgical authorities, that the sole cause of the fatal termination of hernia, consists in strangulation of the protruded bowel."

The class of hernia styled by the French Engouement, meaning a state of obstruction from accumulation, is the same as is described by Mr. Lawrence and by Scarpa, under the head of Chronic or Slow Strangulation; and is also the same as is described by Mr. C. Bell in the clinical lecture to which I have before alluded. The Reviewer has referred to the French description of "Engouement," to shew that I had been anticipated in my views of "Obstructed Hernia." I admit that, in these cases, the stricture is secondary in its effects, but I deny that these cases affect the originality of my views of Obstructed Hernia. Cases of Engouement fall under the general head of Obstructed Hernia, but they by no means include the Obstructions *from adhesions*, to which I have alluded: they are essentially different. He who has seen or read of the cases of Engouement, would be by no means prepared to comprehend cases of Obstruction from adhesion. In cases of Engouement the hernial tumour is described as becoming enlarged, and as becoming "tense, unyielding, and painful;" whereas, in the case which first called my attention to this subject, the hernia "was not tense; pressure upon it gave no pain; it receded under the touch, and passed readily into the abdomen, with a slight gurgling noise, but returned when the pressure was removed." [see page 4.] In engouement, the hernia also is described as growing larger and more painful; also, "the intestinal contents accumulate in larger and larger quantities between the stomach and the seat of the obstruction;" whereas, in the obstruction from adhesion, as described by me at

page 61, "the intestine in the hernia was empty," as were also the intestines above the obstruction, the fœcal vomiting having removed all the contents of the intestines: and, consequently, if the obstruction had depended, as in engoucment, upon accumulation, the cause was in this manner removed. But these cases depend upon a fixture of a portion of the intestinal tube, *whether in the hernia or not*, and consequently, have nothing to do either with incarceration or accumulation. The following case and remarks, appeared in the London Medical Gazette, July 18th, 1829.

"SCROTAL HERNIA.

To the Editor of the London Medical Gazette.

Sir,

ALTHOUGH the following case did not come under my own especial notice, yet I was induced to take short notes of it, thinking it, in many points, very interesting: if you deem it so, you will oblige me by inserting it in a corner of your valuable journal.

I remain, Sir,

Your obedient Servant,

JOHN HEWSON.

Lincoln, July 4th, 1829.

John Westfield, aged 55, of spare habit of body, admitted late in the evening of Thursday, May 28th, 1829, under the care of my colleague, Mr. Boot, senior Surgeon to the Lincoln County Hospital, for a scrotal hernia of of the left side. The tumor is of a pyramidal shape: the integument covering the herniary tumor has a natural appearance; is inelastic; but the taxis produces a gurgling noise, as in intestinal hernia; considerable pressure upon the tumor occasions no pain; he has hiccup, and

eructations of air, with cold extremities. He states that he has been affected with a rupture for the last thirty years, which has usually been of the size of a pullet's egg. Early on Monday morning, the 18th, whilst in the act of throwing stones into a cart, he perceived the hernia suddenly to enlarge, more so than he had ever known it before: this was followed by slight pain of abdomen, and nausea: he has passed no stool since the Sunday, (17th) preceding the descent of the hernia; prior to admission into the hospital, he vomited daily, and had pain of abdomen, with fever.

He was immediately bled to 16 oz. which produced fainting; but the taxis failed to make any impression on the tumor. Cathartic clysters were given, with castor oil, which produced two slight evacuations, and cold was directed to be applied to the swelling.

May 30th.—Restless night. Pulse 80, small and thready. He continues to vomit, and the egesta have a decidedly fæcal character; no further evacuation by the anus; very little tension of the abdomen, on which pressure produces little or no uneasiness, but on the neck of the sac it produces pain; cold had been applied to the tumor, but was omitted at the patient's request, in consequence of its causing considerable pain; body and extremities cold. Ordered to have a cordial mixture, and cathartic clysters every four hours.

31st.—Bad night. Pulse 80, very small and thready. Hands and face very cold. Generally lies upon his left side; when lying on his back, he invariably begins to vomit; the clysters return unaltered.

June 1.—Has passed a very restless night. Pulse 80, very feeble. Constant eructations of air. Complains of more pain across the region of the bladder, and along the course of the transverse arch of the colon. Vomits much stercoraceous matter. No stools.

2d.—Has had a better night, with less vomiting. Can take nothing but a little wine and water.

3d.—In every respect the same. Has had a purging stool. Pulse 80, small and thready.

4th.—Slept but little; was not restless. Pulse 84, seareely pereeptible. He constantly lies upon his left side, with the trunk bent, he is gradually sinking.

5th.—Died at 7 o'elock this morning.

Post Mortem Examination, 5 hours after death —On opening the eavity of the abdomen, sero-purulent fluid was observed between the agglutinated folds of inflamed intestine; the great omentum twisted together, as if slightly encircled with a string; the whole of the intestinal eanal exhibiting marks of inflammation, and distended with air and fæees. The arch, ascending and descending portions of the eolon, were more particularly inflamed and distended; the peritoneum lining the abdominal museles not inflamed; the eommon integuments of the herniary tumor, quite natural in appearanee; the faseia superfieialis and sae mueh thiekened, the latter eontained very little fluid; the sae contained a considerable portion of omentum, about the size of a turkey's egg: this was healthy in appearance, slightly inflamed, and adherent to the mouth of the sae only. No intestine was found in the sae, *but a portion of the ileum had become adherent to the omentum by its peritoneal surface at the mouth of the sac.* This portion of intestine had a very dark appearanee, but it regained its natural eolour after immersion in spirits of wine. *The calibre of the gut was not at all diminished or interrupted.* The hernia was eongenital, the omentum in the sae being in eontaet with the testiele.

As the omentum had a healthy appearanee, I am of opinion that the adhesions were formed in eonsequence of the last descent of omentum, and that this case dis-

tinctly points out the danger of allowing omentum to remain for any length of time in the sac of a hernia. In the Medico-Chirurgical Review, July 1st, connected with a review of Mr. Stephens's work on Hernia, I find the following passage inserted by the Editor of that valuable journal, p. 113 :—

'No doubt can exist, nor indeed has at any time existed, that bowels confined by adhesions in hernial sacs, will not go on with their natural functions so freely as when loose and floating in their native cavity. But the question is, will adhesions, *per se*, occasion a fatal obstruction to the office of the gut? Mr. Stephens says they will; and the issue is with him and his surgical brethren. For our own parts we doubt whether such be the case; nor can we imagine that a patient will die from this cause alone. The case is very different when the adhesions are so arranged as to act like a stricture in the gut, or when the latter is so placed as, by being convoluted in itself, or in any other manner to prevent the egress of matters from its cavity.'

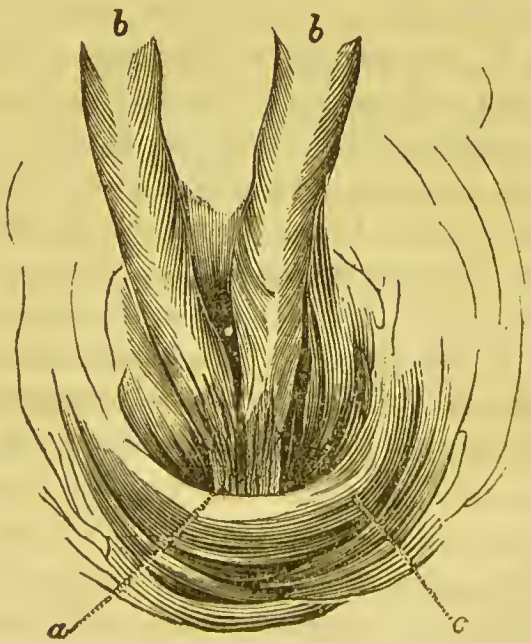
In the above case there was no stricture or diminution of the calibre of the gut, but a simple adhesion between the omentum and intestine, yet this proved amply sufficient to produce derangement of the functions of the alimentary canal, and ultimately death, with all the symptoms of incarcerated hernia."

The foregoing case, and the comments of Mr. Hewson at its conclusion, will furnish a complete refutation of the reviewer's statements.

And now having as I conceive, answered the above objections, I am anxious to qualify or rather to state more exactly my opinion of the way in which adhesions, whether within a hernia, or within the abdomen, occasion obstruction.

I do not believe it is so much the *extent* as the *man-*

ner of the adhesion, which gives rise to the obstruction. If a considerable portion of the intestinal tube should become adherent to a contiguous structure, it does not follow that obstruction would occur; as I have seen the intestinal tube, to a large extent, adherent to an enlarged ovary, without the patient having had, during life, any symptoms of ileus or obstruction, because the adhesions act upon the whole length of the tube, and not upon a part; and, as the muscular power of the intestines is not wholly confined by the adhesions of its peritoneal covering, a passage, although perhaps slowly, is yet maintained. It is, as far as I have observed, an adhesion of a small part of the intestinal tube, which is most likely to cause a fatal obstruction; such an adhesion, drawing and fixing the intestine out of the regular line of its convolution, gives it *an angular or acute bent position;* and it is this unnaturally bent position, which is the real obstruction. *See drawing.*



a. Adhesions fixing the intestine to the sac.

c. Hernial sac.

b b. The diverging ends of the intestine.

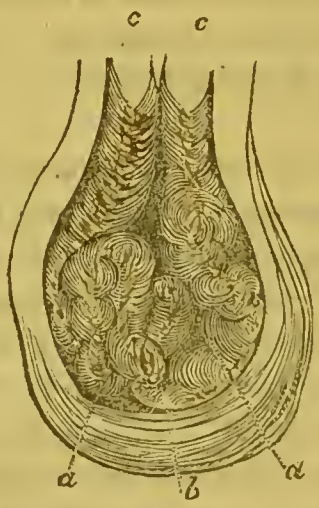
This drawing will shew, that an adhesion of one point of the intestinal tube, has a tendency to give an acute bend, or angle, to the fold of intestine; and that such angle is sufficient to obstruct the passage without any stricture. It will also shew, that the peristaltic struggles of the intestine have a tendency to make the angle more acute, and the obstruction more obstinate; also, that, if the adhesions had extended along the ascending portions of the intestine, fixing it to the sides of the sac, the position of the intestine would have been more semi-circular, or convoluted, and therefore less likely to form an obstruction.

A case which I attended with Mr. Field, Surgeon of Bolt Court, was of this kind:—It was a femoral hernia, containing omentum, which completely filled the hernial sac; but within the abdomen was a portion of intestine adhering to the extremity of the omentum, which presented itself at the mouth of the sac; the intestine was neither strangulated nor constricted, yet the woman, refusing any operation, died with that slow progress of symptoms such as I have described under the head of Sub-acute Mechanical Obstructions. The case, as regards the seat of the obstruction, resembles the one reported by Mr. Hewson in the Medical Gazette, and quoted already. Mr. Field afterwards brought this case under the notice of the London Medical Society.

a. Adhesion of the intestine to the omentum.
b. Omentum within a hernial sac.
c c. Intestine diverging from it.

Since writing the foregoing Treatise, I have witnessed, through the kindness of Mr. Bransby Cooper, a case of hernia which has somewhat extended my views upon the subject of obstructions without stricture. Mr. Cooper having a case under his care at Guy's Hospital, which he considered to correspond with the obstructed hernia described by me, kindly invited me to see it. The case was one of femoral hernia, and the remarkable circumstances attending it were the mildness and slow progress of the symptoms; the soft and yielding state of the tumor indicating an absence of stricture upon the intestine. An operation was performed by Mr. Cooper, a portion of ileum was found within the hernial sac, which was very much thickened and enlarged, and apparently knotted, as if scybala were contained within; the intestine was however empty. There was no stricture,

for Mr. Cooper passed two fingers by the side of the intestine into the abdomen. The knotted and thickened part of the intestine could not be returned without enlarging the opening, and it was this, consequently, which had made it irreducible, for it was altogether free from adhesion. The knotted and unyielding state of the intestine had the effect of confining it in an unfavourable position, as completely as if it had closely adhered; for, although free at the ring, it was *wedged* within the hernial sac. This shews, that whenever the intestine becomes fixed in an unfavourable position, (whether from adhesion or from being in too confined a space, or from any other cause), a fatal obstruction may be the consequence, independently of any constriction.



a a. The intestine within the hernial sac morbidly thickened and unyielding.

b. The hernial sac.

c c. The portions of intestine passing to the abdomen.

Surgeons and surgical writers are prone to admit, that there are, oftentimes, great difficulties in the diagnosis, in cases of hernia, and great perplexity in deciding upon

the propriety of operating. I cannot myself subscribe to this opinion, as I believe there is no disease in which effect and cause are more clearly exhibited, and in which the relief is more plainly indicated than in hernia. The difficulty has arisen from the habit which Surgeons have fallen into, of looking to one cause only (namely, stricture) for an explanation of the different phenomena which this disease presents, instead of considering the *different* morbid conditions, as the result of *different* causes.

I believe, that if the terms, Strangulated Hernia, Chronic Strangulation, Incarceration, Engouement, &c. were abandoned, it would conduce to a better understanding of the subject, as neither of these names express the true morbid condition (Obstruction) under which hernia labour: for example, the symptoms which are said to denote a strangulated hernia, can exist without any strangulation, or even without any stricture whatever. Chronic strangulation can only mean a state of constriction, *not actually* amounting to strangulation Incarceration conveys no idea beyond that of irreducible hernia. Engouement, or accumulation, also is but the *effect* of obstruction. The term, (Obstructed Hernia), in my opinion, expresses that state of disorder with which herniæ, when requiring an operation, are affected. The terms Acute, and Sub-acute, attached, express the different *degrees* of the disorder, thus:—We should consider hernia, first in its simple state, (Hernia), meaning a simple protrusion, without any accompanying disorder: secondly, in its obstructed state, (Obstructed Hernia), meaning a hernia affected by some cause obstructing the function and passage of the intestinal tube. If the cause is stricture, the symptoms will be more or less acute and violent, depending upon the greater or less degree of constriction,

and this may very properly be called (Acute Obstructed Hernia.) If the cause is a confinement of the intestine in an unfavourable position, without any stricture, the symptoms, although the same in kind, will be mild and protracted, and this will be properly defined by the term (Sub-acute Obstructed Hernia.) The term, (Inflamed Hernia,) is meant to denote a state of inflammation among the contents of a rupture, independent of any direct mechanical obstruction, but arising as a consequence of the morbid changes which the parts undergo from long protrusion. Thickened and diseased hernial sacs, and thickened and diseased omentum or intestines, are the frequent cause of acute inflammation in a hernia, which most frequently extends its fatal effects to the interior of the abdomen.

It is my wish to direct the reader's particular attention to the subject of Inflamed Hernia, as I believe most of those singularly fatal cases of hernia without stricture, more especially occurring in large umbilical hernia, and which have confounded and puzzled the surgeon from the time of Mr. Pott to the present period, may be explained under this definition.

It is proper here to mention, that I am less sanguine in my hopes of success from an operation in cases of large inflamed hernia, than I was at the time when I wrote the treatise; still I believe that the principle of the *attempt* is good, and the exit which it would give to pus or other morbid fluids, and the opportunity which it affords of removing disorganized omentum, &c. cannot be otherwise than beneficial. When the Inflamed Hernia is small, consisting probably of diseased omentum only, or diseased sac, or small portions of intestine, the operation I think would often save the patient.

I have laid considerable stress, in this work, upon the circumstance of many cases of hernia proving fatal, with-

out any inflammation having been present. I would again urge this pathological fact upon the attention of my readers, because it has been usual to suppose that inflammation was the cause of death in hernia; whereas the mechanical obstruction to the function of the intestines is quite sufficient to destroy life, without any inflammation whatever. This is more especially seen in the subacute cases, and I could bring an immense number of such cases to support this fact; indeed I am disposed to think, that even in acute cases, inflammation plays a much more secondary part than Surgeons generally imagine. The small, depressed, although quick pulse, attending inflammation of the bowels, is not the *effect* of inflammation; for when the function of the stomach or intestines is in any way impeded the pulse is depressed, and therefore although an attendant when there *is* inflammation of the bowels, it is also an attendant when there is none. The sudden sinking produced by oxalic acid and other poisons taken into the stomach, which occurs also in cases of rupture of the stomach and intestines, is the effect of the lesion of an important vital organ; and ought by no means to be taken as a characteristic of inflammation; and therefore the expectation that the pulse will rise after bleeding is fallacious and dangerous; for as bleeding cannot remove an injury of these organs, whether mechanical or produced by poisons, life may often be sacrificed to a scrupulous adherence to this unfounded opinion.

Fœcal vomiting is one of the most distinct and characteristic features of all *slow* mechanical obstructions of the small intestines, and great misconceptions have occurred and still prevail with regard to this pathognomonic sign.

To shew the prevailing belief of the medical profession on the subject of stercoraceous vomiting, and

to shew the influence of opinions upon the mind in despite of facts, or rather to shew how opinions are remembered and facts forgotten, I will just advert to a case related in the Med. Chirurg. Review, page 539, for the year 1825, as having occurred to the Editor of that Journal.

The case was one of mechanical obstruction of the bowels internally. The patient was a servant of the late Mr. Belzoni. In the account of the case it is said, "*vomiting of stercoraceous matters*—great distention of the abdomen—dreadful colicky pains—and all the phenomena of ileus occurred, and continued many days before death." In the examination of the body it is said, "the intestines, above the obstruction, were greatly distended; but there was no inflammation that could fairly account for the patient's death.* *A portion of ileum* had got entangled under an old band or bride, formed probably during the illness in Egypt, and was easily drawn out; but a complete obstruction—in fact, a regular internal strangulated hernia had been the consequence." The above case, be it remembered, is detailed as one which occurred under the care of the Editor himself in the *year* 1825, yet in the same Journal for the *year* 1827, (*only two years afterwards*) the following remarks are made after the report of a case of hernia. "We have often been surprized that Surgeons should consider stercoraceous vomiting to be a necessary consequence, or certain proof of strangulation of the gut. How can stercoraceous matters return from the large intestines (where alone they can acquire the "fœcal odour" if a portion of small intestine, as in the above case, is incarcerated? The thing is absurd." [Yet, as I have shown above, the Editor of the Journal had *himself* witnessed such occurrence.]

* According with the opinions given in this work.

Fœcal vomiting is (as I believe) but rarely an attendant upon obstructions of the large intestines,* probably on account of the valve of the colon. It is in obstructions of the small intestines, and more especially of the ileum, that this symptom prevails; and it rarely prevails, even in these cases, unless the obstruction is a *protracted* one. In acute strangulated hernia fœcal vomiting is seldom witnessed, because the patient, unless relieved, would, in such cases, generally die before the period at which this symptom usually occurs. It is seldom until the symptoms have existed nearly a week, that this appearance is witnessed; and although, in a natural state, fæces may not be contained in the small intestines; yet when the contents of the bowels have been long obstructed, they acquire the excrementitious or fæcal character, in the small as well as in the large intestines, which proves that this particular character is derived not so much from any thing peculiar in the secretions of the large bowels, as has been supposed, but more from a chymical or putrefactive change which the contents undergo, proportionate to the longer or shorter time they have been contained in the intestines. To prove the fact that fæcal vomiting is almost peculiar to obstructions of the ileum, I need only refer to the cases I have quoted, and to almost all those upon record; but I would also advert to the name ileus, or iliac passion, given to this disease by former writers, to indicate that it was a disease whose seat was the ileum.

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* A man at Guy's Hospital, laboured under obstruction of the bowels for twenty-one days, and yet no stercoraceous vomiting occurred. Upon dissection, it was found that the termination of the colon had been the seat of the obstruction; had it been the ileum, fœcal vomiting would, without doubt have taken place.

Fæcal vomiting is said sometimes to occur independently of mechanical obstructions, and as a proof, instances have been adduced where glysters have been ejected by the mouth, and yet recovery has taken place without an operation. I consider neither of these in the nature of proofs. It must be recollected, that in many cases of mechanical obstruction from adhesion, the canal of the bowel continues partially pervious—the channel is sufficiently free for the passage, at least, of fluid matters. The obstruction acts as much by impeding the peristaltic action, as by blocking up the passage of the canal; and as a proof of the truth of these remarks, I beg to refer the reader back to the "Obscure case of Hernia," *ante* page 109, where he will find it stated, that the patient "brought up, by vomiting, a great quantity of matter which had the appearance, and she said, tasted of the injection;" and yet I should think no one will deny that this was a case of mechanical obstruction. Attacks of obstruction are frequent in persons who have an adhesion of the intestine, and these may even sometimes proceed so far as to occasion fæcal vomiting, and the patient, notwithstanding, recover. There are few who fall eventually victims to these causes who have not previously laboured under frequent attacks of colic. Cases of intersusception, in which the bowel has become replaced, may account for recovery after fæcal vomiting.

I am still of opinion, that many lives might be saved, if herniæ, upon their first beginning to be irreducible, and while small, were to be subjected to an operation, for the purpose of returning them; as those changes of structure which are ultimately the cause of death, would by this means be prevented.

The return of the hernial sac in all operations upon *recently formed* hernia, where it is practicable, I am con-

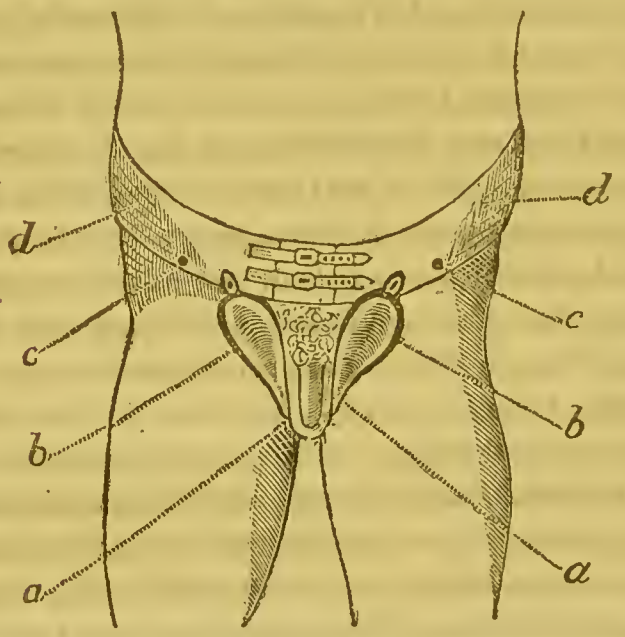
vinced is good practice, and would, in most instances, prevent any future descent of intestine.

Among the most important parts of the Treatise, I may be allowed to mention that on mechanical obstructions within the abdomen, as containing, in my humble opinion, information which will lessen the difficulties involving the diagnosis of these important and deplorable cases.

I omitted in the work to notice, that in acute obstructions, the intestines above the obstructed part are distended; and below it, they are collapsed and shrunk. This line of demarcation might serve to direct an operator (in an attempt at relief in these cases) to the part where the obstruction is seated.

I have been accused of temerity and rashness for having ing advocated the propriety of a surgical operation for the relief of mechanical obstructions of the bowels internally. If it could be shown, that relief in such cases is *impossible*, the accusation would be just; but as wounds of the intestines, incisions into the abdomen, &c. &c have frequently occurred without proving fatal, and as the operation I advocate, has been successfully performed, (see Med. Chirurg. Review, 1825,) under circumstances very unfavourable, I cannot quietly acquiesce in the charge against me on this score. I have been condemned as if I had *indiscriminately* recommended the operation *in all cases;* whereas, I have distinctly stated, "that the operation is not to be undertaken until it is proved that the obstruction cannot be removed by other means; nor unless the symptoms point out, with a tolerable degree of precision, that the obstruction is mechanical, and also give some good grounds for conjecturing its probable situation." I would, in order to settle this point, recommend my accusers and my readers to peruse attentively the case which I extracted from Sir Astley Cooper's work, re-

lated by Mr. Dalrymple, (see ante, page 150), and when they have read that case, I would ask them, whether, if such a case had *once* occurred to them, they would feel justified, should a similar case occur a second time, in suffering the patient to die without any attempt to save him? The answer which they must give, would fully acquit me; for it is only in such cases where the symptoms are as strongly marked, and the seat of the obstruction as clearly indicated, that I recommend an operation. Many operations which are continually performed, are much less justifiable than this; for let it not be forgotten, that it is recommended *only*, because there is no other possibility of saving the patient.



The above is a diagram of a Truss, which I have been in the habit of using for my patients for a number of years, and I think it far preferable to the Trusses commonly used.* It consists of a belt or girth *(d d)* round the ab-

* The artist (as the reader will perceive,) has represented the belt and pads too low, to cover the seat of an inguinal protusion.

domen, and a peculiar spring pad *(b b)*, which is attached to the girt by a button; there are other buttons *(c c)*, which allow of the pads being shifted; a strap *(a a)* passes between the thighs, and is attached to a button behind.

The advantages of this Truss, consist in the support which the girth gives to the intestines in the abdomen, and the facility with which the pad may be fitted over the opening, where the hernia protrudes, by having additional buttons; also in its cheapness.

When I first gave these Trusses to my patients, I found them, almost invariably objecting to take them, urging it as their opinion, that they would not answer; and stating, that they would rather take one like their old ones, (the common spring Trusses.) I begged of them to give them a trial, adding, that if they did not answer as well as the others, I would exchange them. I never had any application for an exchange, and whenever these persons applied for another truss, the last being worn out, I found them always requesting to have this sort, as they stated they could perform their daily labour* so much better with them than with the former ones.

A medical friend in the country, to whose notice I introduced these Trusses, informs me that he has recommended them to his patients ever since, and has never heard of any complaint of their inefficiency, but on the contrary, finds that his patients give them a decided preference to all others they had been in the habit of using.

In the former edition of this work, I printed an Appendix, containing a correction of a physiological error, rela-

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* These patients were chiefly the paupers of a parish I attended in the country, and were consequently labourers, and of course, the best kind of persons on whom to determine the efficiency of the contrivance.

tive to the difference in size between the male and female bladder. As I shall not, in the present edition, reprint that part, I shall briefly notice it in this place. It had been supposed, that the frequent longer retention of the urine in females, from motives of delicacy, was the cause of the increased size of the bladder in them; but, (as I there shewed) this increased size is occasioned by pregnancy, a fact which is elucidated by the circumstance that the bladder of all female animals which have produced young, is larger than that of the male; and that, this increased size does not exist in those animals which have never been with young, or in those which have been spayed.

FINIS.